

# MACWORLD

March 1986 \$3.95

Canada \$4.95

## How to Speed Up Your Tax Return

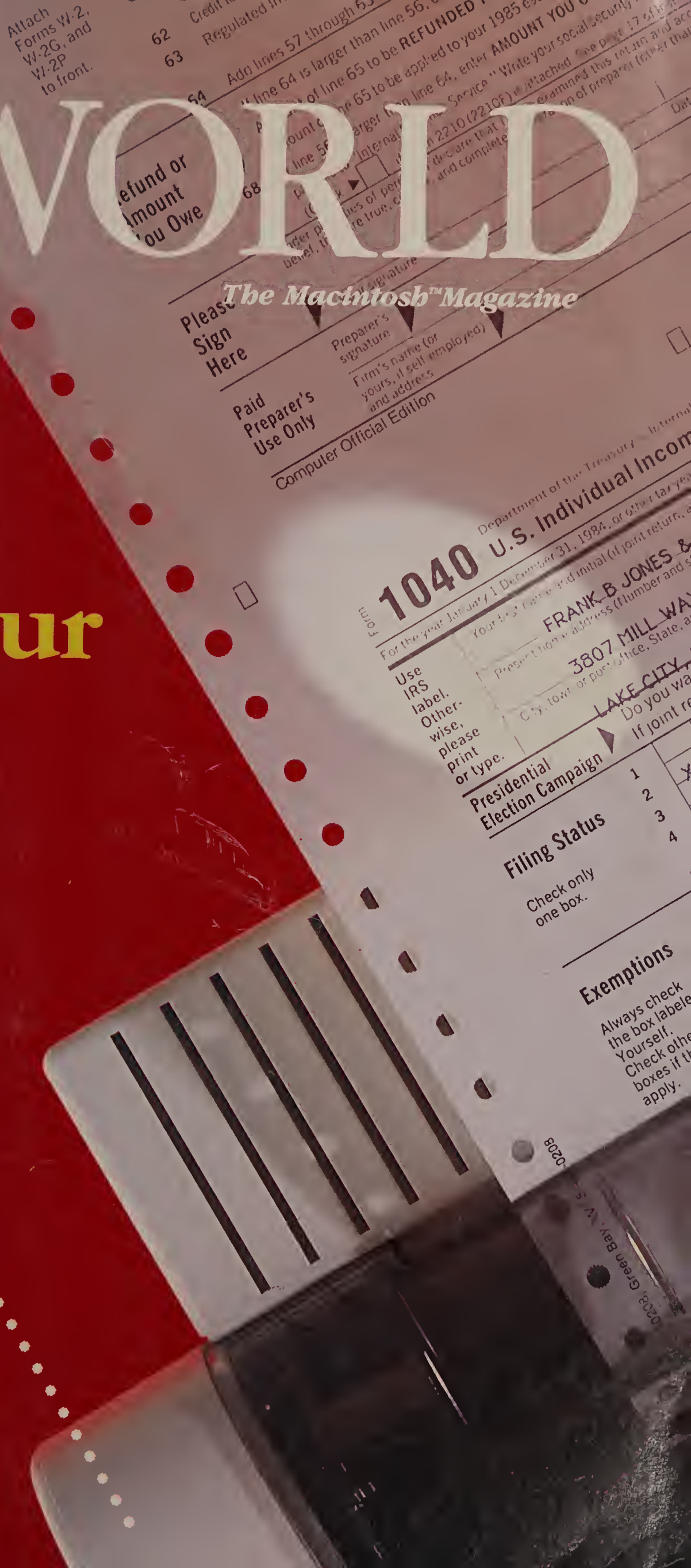
*Five packages  
that prepare taxes*

More Powerful  
Page Makeup

Applications  
All on One Disk

Higher-Performance  
Desk Accessories

Keep Pictures in a  
Database





# Borland's SideKick® and PhoneLink™ the world and double your



Other Borland products include Turbo Pascal®, Turbo Database Toolbox™, Turbo Editor Toolbox™, Turbo Graphix Toolbox™, Turbo Tutor®, Turbo GameWorks™, SuperKey®, Reflex, The Analyst™, Traveling SideKick™, and Turbo Lightning™ — all of which are trademarks of Borland International or Borland/Analytica, Inc.



# Clear your desk, connect you to productivity for only \$99.95

**S**ideKick, The Macintosh™ Office Manager™, gets rid of antiques like desktop phone directories, calculators, calendars, notepads, clocks, adding machines and similar clutter. Sweeps all that off your desk and into your Mac. You can now bring true desktop organization, information management and telecommunications to your Mac and do all that *while you're running other programs.*



## What PhoneLink does for you

*In true multi-tasking style, PhoneLink automatically dials for you even while your modem is in use on some other task like sending or receiving a file. This one cubic-inch piece of hardware plugs into your Mac's sound port and will dial all your phone numbers for you. You can install your PhoneLink in a few seconds and take extra pleasure in the fact that it didn't cost you anything because it came free with your new SideKick.*

## What SideKick does for you

- Gives you a full-screen editor and mini word-processor that lets you jot down notes, create and edit files, and/or be used in conjunction with programs like MacWrite™ or MacPaint™.
- Provides you with a telecommunications program that sends and receives data from any on-line network or

bulletin board *while using* other applications. (You need a modem for this feature.)

- Lets you tap into a full-featured financial and scientific calculator that will let you print out a paper tape of your work.
- Offers you a print spooler that prints any text file while you run other programs.
- Shows you an instant calendar — by day, week, or month — which you can also print out.
- Reminds you of important dates/times/appointments with a "things-to-do" file.
- Alerts you to engagements with a convenient alarm system.
- Tells you what you're spending in telephone charges by calculating the cost of every call to whatever area code or time zone.
- Keeps you aware of business and travel expenses.

- Gives you a credit card file that tracks entries, balances, and limits.
- Arms you with a report generator that prints out your mailing lists, calendar, or phone directory.
- Tells you the time with a sweep-hand analog clock.
- Gives you instant on-line "Help" with one mouse click.

**Get both SideKick, The Macintosh Office Organizer and PhoneLink for only \$99.95**

SideKick for the Mac is an electronic leap that projects you and your Mac into the real world. But you're getting much more than that. You're getting SideKick, you're getting PhoneLink, and you're getting our legendary 60-day money-back guarantee.

SideKick is not copy-protected. It will clear your desk, do miracles for your productivity — and do all that for only \$99.95.

**“** Take my compliments as a user. When I see SideKick, I know I want it.

*Jean-Louis Gassée, VP,  
Product Development,  
Apple Computer*

SideKick is the first product for the Mac that begins to make real the promise of an electronic desktop.

*Lawrence J. Magid,  
Chicago Sun Times* **”**

**YES!** I want the best

Rush me SideKick and PhoneLink

Send me \_\_\_\_\_ copies at:

**\$99.<sup>95</sup>**

This price includes shipping to all U.S. cities

**Software for your Macintosh  
60-DAY MONEY-BACK GUARANTEE  
NOT COPY-PROTECTED**

To order by credit card call (800) 255-8008, CA (800) 742-1133. Available at better dealers nationwide

Name: \_\_\_\_\_

Shipping Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Subtotal: \_\_\_\_\_

Outside USA add \$10 per copy  
CA res. add \$6 tax per copy

Amount Enclosed: \_\_\_\_\_

Payment: VISA MC Bank Draft Check

Credit Card Exp Date: \_\_\_\_\_ / \_\_\_\_\_

Card #: \_\_\_\_\_

\_\_\_\_\_

COD's and Purchase Orders WILL NOT be accepted by Borland. California residents add 6% sales tax. Outside USA add \$10 per copy and make payment in US dollars drawn on a US bank

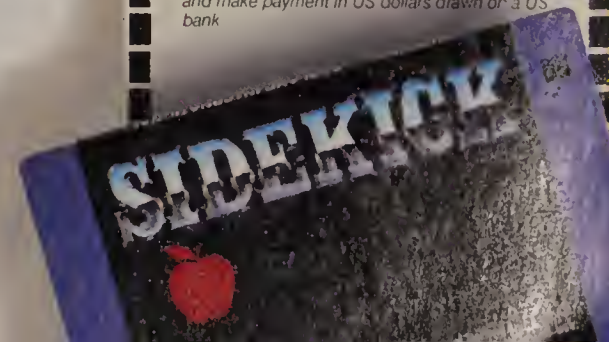


*Vive la différence*

4585 SCOTTS VALLEY DRIVE  
SCOTTS VALLEY, CA 95066  
(408) 438-8400 TELEX: 172373

SideKick is a registered trademark and PhoneLink is a trademark of Borland International, Inc. Macintosh, MacWrite, and MacPaint are trademarks of Apple Computer, Inc.  
Copyright 1986 Borland International BI-1032

Circle 381 on reader service card





# MACWORLD

March 1986

The Macintosh™ Magazine

## Getting Started

### 80 Five Easy Pieces

Gordon McComb

Craft the right tool for the job by organizing your programs and utilities onto task-specific work disks. This tutorial shows you how to custom-build disks for five tasks.

## Review

### 86 Taking Care of Taxes

Steve Mann

This year don't have a tax attack; use the Mac. Five products free you from the frustration of federal forms: *MacInTax*, *Tax Master*, *TaxPlan*, *Tax-Prep*, and *TaxWizard*.

### 94 Filevision Gets Down to Business

Allen Munro

The program that made databases fun adds some serious business capabilities. A look at Telos Software's new *Business Filevision*.

### 98 The Macintosh LISP Machine

Richard Sprague

Two new LISP dialects from ExperTelligence—ExperLisp and *ExperOPS5*—bring the language of artificial intelligence to the Macintosh.

### 106 Accessories to the Facts

Gordon McComb

Another alternative to desktop clutter, Borland's *Sidekick* is a versatile collection of desk accessories that can work as a stand-alone desk organizer as well.

## Hands On

### 110 Roll Over Gutenberg

Jay Kinney

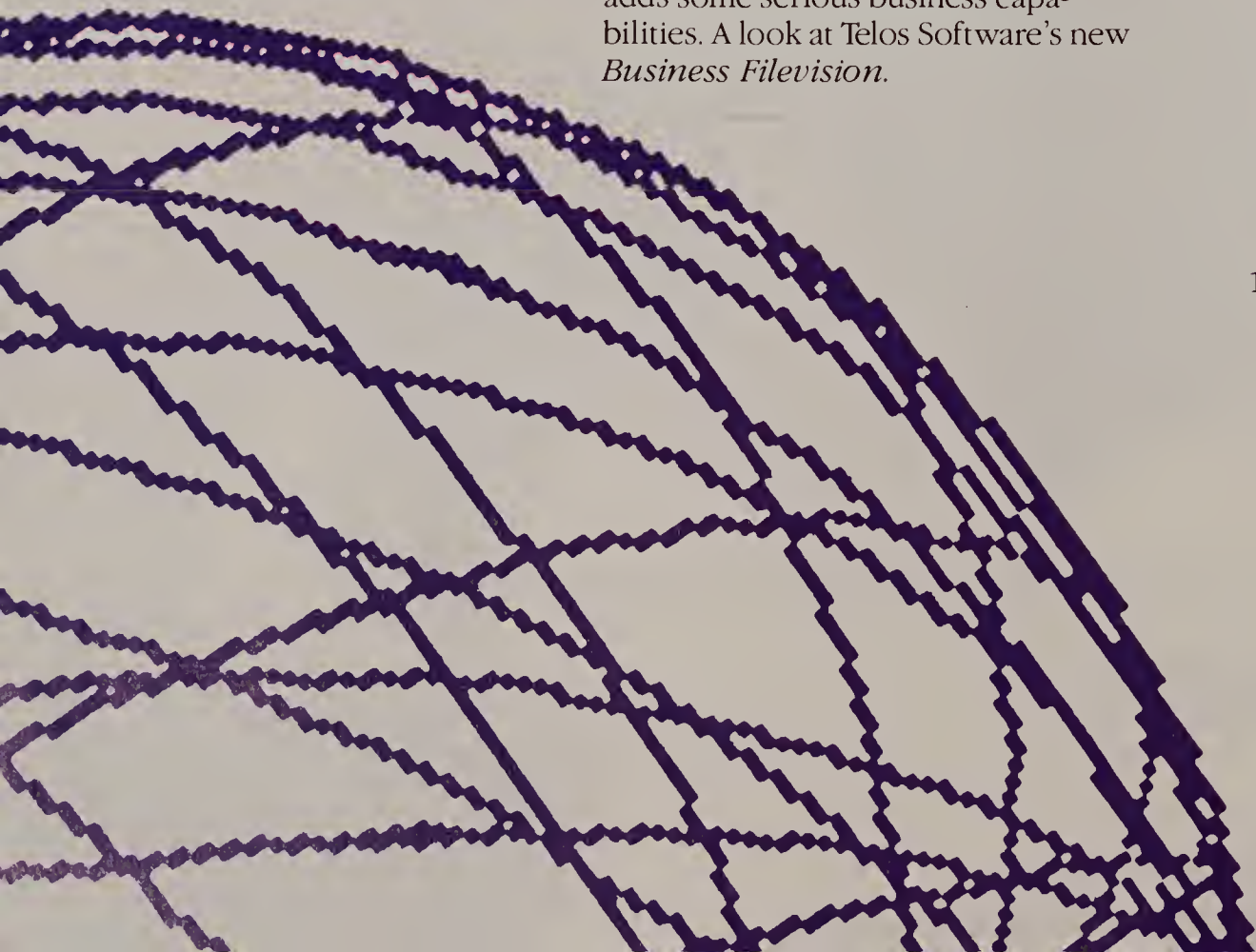
The freedom and instant gratification of desktop publishing are turning once-sober newsletter producers into printing fanatics. Experience the thrill of self-publishing vicariously as we take you through this sample job with Aldus's *PageMaker*.

## Community

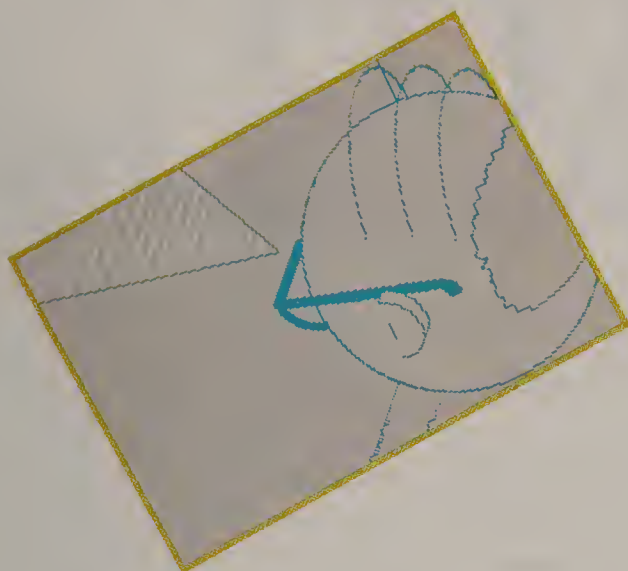
### 116 Hypermedia

Jeffrey S. Young

Two computer pioneers are devising a new type of multimedia information system that could let a user navigate through cross-referenced documents of text, numerical data, pictures, music, video, and more.







## Departments

- 13 The Myth of the MIS Manager**  
*David Bunnell*
- 31 Note Pad**  
*Charles H. Gajeway*  
A reformed power user argues against high-tech overkill in the office.
- 39 Letters**
- 57 Macworld View**  
*Edited by Herschel Schmedick*  
The Macintosh Plus and other new Apple products, Odesta's *Double Helix*, theater on the Mac, and more news and notes for the Macintosh community.
- 67 Get Info**  
*Lon Poole*  
*Macworld's* tutor answers questions about Mac and Apple II compatibility, *MacTerminal* fine points, and other Macintosh concerns.
- 123 Macware Reviews**  
*Edited by Erfert Nielson*
- *MacOneWrite Cash Disbursements* The first module in Sierra On-Line's accounting series mimics its manual counterpart.
  - *MacSpell+* Track down spelling mistakes and typos with Creighton Development's spelling checker.
  - *Dinner at Eight* A collection of recipes that gives new meaning to the term *pull-down menu*.
  - *MegaDesk* Keep track of appointments and file text and pictures with this desk organizer.
  - *Championship Star League Baseball* Let your fingers do the balking in this animated baseball game.
  - *LaserJet and LaserJet Plus* These printers provide less expensive alternatives to the LaserWriter.

## 167 Open Window

*Jim Heid*

An exchange of Macintosh discoveries, including how to improve the quality of digitized images, bypass the MiniFinder, and get rid of locked files.

## 159 Macworld Directory

## Indexes

### 164 Advertisers

### 165 Products

## Photo/illustration credits

*David Bishop*, 80-81;  
*Mark Hanauer*, 61; *John Hersey*, 95; *Ed Kashi*, 118, 119 (bottom left); *Will Mosgrove*, 57; *Stu Rosner*, 63; *Bob Sacha*, 31, 116-117, 119 (bottom right), 120-121; *George Steinmetz*, 13, 67; *Fred Stimson*, cover, 86-87, 111; *Jerry Townsend*, 119 (top); *Mick Wiggins*, 39, 106, 123, 132, 140.





# MACWORLD

**David Bunnell**

Publisher

**J. Kelley Younger**

Executive Editor

**Jerry Borrell**

Editor

**Jacqueline Poitier**

Associate Publisher,  
Art and Design

**Editorial**

Associate Editors: Daniel Farber,  
Adrian Mello

Technical Editor: David Ushijima

Assistant Editors: J. E. Arcellana,  
Erfert Nielson

Editorial Manager:

Janet McCandless

Senior Copy Editor:

Kathleen Christensen

Copy Editors: Nancy E. Dunn,  
Joe Matazzoni

Editorial Assistant: Heidi Mitchell

Assistant to the Executive Editor:

Gina Vanlue

Editorial Secretary: Eileen Drapiza

Contributing Editors:

Danny Goodman, Jim Heid,

Jeremy Joan Hewes, Nicholas Lavroff,

Gordon McComb, Lon Poole,

Jeffrey S. Young

**Art and Design**

Designer: Marjorie Spiegelman

Art Director: Bruce Charonnat

Associate Designer: Dennis McLeod

Associate Art Director:

Christopher Burg

Design Associates: Leslie Barton,

Victoria Floyd

Assistant: Nan Cassady

**Production**

Director: Herbert Linden

Senior Production Managers:

Frances Mann, Lee R. Trevino

Editorial Production Manager:

Ellyn L. Hament

Production Editor: James Felici

Ad Traffic: Jayne Boyer

Telecommunicators: Mark L. Duran,  
Susan M. Ford, Virginia Weir

Display Advertising Supervisor:

Cathy Miller

Assistant: Otto Waldorf

**Research**

Associate Publisher/Director:

Cheryl Woodard

Manager: Gary L. Rocchio

Research Analyst: Ralph Ames

**Corporate Development**

Manager: Karen Wickre

Special Projects: Jeffrey S. Glines

International: Karen Dowell

Secretary: Gloria C. Sundin

**Marketing and Advertising Sales**

Associate Publisher/Director:

James E. Martin

Regional Advertising Manager/

No. California (San Francisco),

Texas: Penny Rigby

No. California (San Jose),

Northwest: Patricia Navone

Midwest: Jeff Edman

East: Linda Holbrook

Southeast: Judy Sutter

Southern California/Southwest:

Michela O'Connor

Directory/1/6-Page Ads: Niki Stranz

Advertising Services Manager:

Ray Petsche

Assistant to the Director:

Loretta Giglione

**Circulation**

Director: Penny Ertelt

Director Single-Copy Sales:

George Clark

Subscription Manager: Gail Egbert

Single-Copy Sales: Bill Cox

Fulfillment Coordinator:

Phil Semler

**Administration**

Director: Janet McGinnis

Accounting: Pat Murphy

Facilities: Joseph Wollenweber

Personnel: Sarah Cox

Technical: Nancy Canning

Assistant to the President:

Christina W. Spence

**Corporate**

PC World Communications, Inc.

**David Bunnell**

Chairman

**Bartlett R. Rhoades**

President & CEO

**Herbert Linden**

Vice President

**Jacqueline Poitier**

Vice President

**Cheryl Woodard**

Vice President

**Andrew Fluegelman**

1943-1985

Founding Editor

**March 1986****Volume 3, Number 3**

*Macworld*™ (ISSN 0741-8647) is published monthly by PC World Communications, Inc., 555 De Haro St., San Francisco, CA 94107. Subscription rates are \$30 for 12 issues, \$50 for 24 issues, and \$70 for 36 issues. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$6 per year from Canada and Mexico; add \$12 per year for surface mail or \$80 per year for airmail from all other countries. For subscriber service questions call toll-free 800/525-0643 (in Colorado 303/447-9330) or write: Subscriber Services, P.O. Box 54529, Boulder, CO 80322-4529. To place new orders, call 800/972-3100 (in Nebraska 402/895-7284). Second-class postage paid at San Francisco. POSTMASTER: Send address changes to *Macworld*, P.O. Box 54529, Boulder, CO 80323-4529.

Editorial and business offices: 555 De Haro St., San Francisco, CA 94107, 415/861-3861.

*Macworld* is a publication of PC World Communications, Inc.

*Macworld* is an independent journal, not affiliated in any way with Apple Computer, Inc. Apple is a registered trademark of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. The following are trademarks of PC World Communications, Inc.: Note Pad, Macware Reviews, Open Window, Macworld Gallery, Macware News, Macworld View.

Printed in the United States of America.

Copyright ©1986 PC World Communications, Inc.  
All rights reserved.





# READYSETGO: The 1-2-3<sup>TM</sup> of Electronic Publishing.

Spreadsheets revolutionized number crunching. READYSETGO is doing the same for electronic publishing.

Its unique block design—a familiar spreadsheet concept—puts the power of professional document production where it belongs: at your desk. If you've ever produced a newsletter, brochure, ad or manual you'll appreciate the way READYSETGO reduces the tedium of document production—while saving you time and money.

## 1 Entering copy and graphics.

After creating a text block, you enter copy using READYSETGO's built-in editor or by importing text from any Macintosh<sup>TM</sup> program.

READYSETGO's powerful document editor makes text input a breeze. A self-contained desktop publisher, READYSETGO features a wide selection of professional typefaces, multiple font sizes and variable line spacing. And you may flow text over 40 page documents.

READYSETGO handles graphics just as easily. Create a picture block and paste in any image from the Scrapbook or Clipboard. Advanced graphics editing allows you to scale and crop graphics to suit your document's layout.

## 2 Designing the document.

READYSETGO does not restrict document design—you can change the appearance or contents of the page at any time. Block placement is flexible, yet can be specified very precisely.

The ease of READYSETGO's *what-if* design style inspires creativity. But you don't have to be an art director to achieve remarkable results. Artistic decisions come to life instantly—and the screen displays exactly what you'll print out.

READYSETGO is not cluttered by scroll bars, so you see more of your design. An exclusive new feature lets you scroll documents quickly—even *diagonally*.

## 3 Printing.

Once designed, you can print your document using the LaserWriter<sup>TM</sup>, ImageWriter<sup>TM</sup>, or any PostScript<sup>TM</sup> printer. For extra high resolution, READYSETGO documents can be produced on Allied's Linotron<sup>®</sup> series typesetters.

Now READYSETGO offers a professional solution for all your printing and publishing needs that's as easy as 1-2-3.

### New! Specifications Version 2.1

#### Editor

Typefaces: *all Adobe fonts\**

Point Sizes: 1-99

Document Size: 1-40 pages\*

Variable Tabs: 5 with full editing support\*

Indents: *paragraph, left*

Scrolling: *up, down, diagonally; by page or article/block\**

Text Flow: *reflow, vacuum*

Line Spacing: 1, 1½, 2 or by any point size\*

#### Blocks

Maximum: 100 (page); 1,000 (document)\*

Frame Styles: *square, oval or circle*

Solid Block Shades: 4

Lines: *solid, broken or hairlines*

Manipulation: *insert, delete, duplicate, move or clear\**

Placement Accuracy: 1/10,000\*\*

Graphics Scaling/Cropping: 1-999%\*

Print Preview: *single page or facing pages*

#### General

Copy Protection: *none\**

Output: *LaserWriter, ImageWriter, Linotron 101/P or 300\**

Price: \$195

*\*Advanced feature*



Using simple block structures, READYSETGO can build complex documents containing text and graphic elements.

The illustration shows a picture block, two solid blocks (as lines) and linked text blocks.

**Buy READYSETGO 2.1 before April 15, 1986 and receive a free copy of ClickArt<sup>TM</sup> Publications. A \$50 value! Call today.**

To order READYSETGO call (212) 989-6442, or send a check for \$200 (includes \$5 shipping and handling) to:

Manhattan Graphics  
163 Varick Street  
New York, NY 10013

Name

Company

Address

City

State  Zip

☐ Amex ☐ Mastercard ☐ Visa ☐ Check

Charge card #

Expiration date

Signature

(NY residents please add 8.25% sales tax)

**READYSETGO**  
The Ultimate Page Processor.



# Throw this software right out the window.



## Introducing The Great International Paper Airplane Construction Kit

Here's the Wright stuff for Mac owners!

Inspired by the best-selling *Great International Paper Airplane Book*, The Paper Airplane Construction Kit is an easy-to-use program with "blueprints" for an entire fleet of full-page paper airplanes, and a library of aeronautical insignia for everything from The Spirit of St. Louis to the Space Shuttle: windows, rockets, pilots

(with silk scarf optional), even stewardesses.

Create an infinite number of different airplanes, then print, cut, fold, and make aviation history.

Fly to your dealer for a copy today (\$39.95\*) and soar with eagles!

### Simon & Schuster

ELECTRONIC PUBLISHING GROUP  
1230 Avenue of the Americas New York, NY 10020

\*Suggested retail.

# "They all laughed when I sat down to draw a piano."



## Introducing The Mac Art Dept.

Piano? You can draw the whole orchestra! The Mac Art Dept. can make an artist out of any Mac owner. Just select an illustration from more than 150 reusable, professional drawings—borders, travel images, Americana, signs, food, animals, and more—on the disk... enlarge it or reduce it, tint it or shadow it, then integrate it into your text. In minutes you can create

beautifully illustrated reports, charts, newsletters—any kind of printed material.

Comes complete with manual written by award-winning graphic artist Thomas Christopher. Pick up a copy today (\$39.95\*) and discover the great artist you really can be.

### Simon & Schuster

ELECTRONIC PUBLISHING GROUP  
1230 Avenue of the Americas New York, NY 10020

\*Suggested retail.

*Macworld* is a member of the CW Communications/Inc. group, the world's largest publisher of computer-related information. The group publishes 57 computer publications in 20 major countries. Nine million people read one or more of the group's publications each month. Members of the group include Argentina: *Computerworld/Argentina*; Asia: *The Asian Computerworld*; Australia: *Computerworld Australia*, *Australian PC World*, *Macworld*, *Directories*; Brazil: *DataNews*, *MicroMundo*; China: *China Computerworld*; Denmark: *Computerworld/Danmark*, *PC World*, *Run* (Commodore); Finland: *Mikro*; France: *Le Monde Informatique*, *Golden* (Apple), *OPC* (IBM), *Distributique*; Germany: *Computerwoche*, *Micro-computerwelt*, *PC Welt*, *Software-Market*, *CW Edition/Seminar*, *Computer Business*, *Run*, *Apple's*; Italy: *Computerworld Italia*, *PC Magazine*; Japan: *Computerworld Japan*; Mexico: *Computerworld/Mexico*, *CompuMundo*; Netherlands: *Computerworld Benelux*, *PC World Benelux*; Norway: *Computerworld Norge*, *PC World*, *Run* (Commodore); Saudi Arabia: *Saudi Computerworld*; Spain: *Computerworld/España*, *MicroSistemas/PC World*, *Commodore World*; Sweden: *ComputerSweden*, *MikroDatorn*, *Svenska PC*; United Kingdom: *Computer Management*, *Computer News*, *PC Business World*, *Computer Business Europe*; Venezuela: *Computerworld Venezuela*; United States: *Computerworld*, *Hot CoCo*, *inCider*, *InfoWorld*, *Macworld*, *Micro Marketworld*, *PC World*, *Run*, *73 Magazine*, *80 Micro*, *Focus Publications*, *On Communications*.





# TIME BILLING & MAIL LIST FOR YOUR MAC!

## LEGAL BILLING

one of the top names designed for attorneys, accountants, consultants or any professional office.

Legal Billing will track time spent, make adjustments and credits, accept billable statements can be printed in several different formats. A variety of other reports can be printed including time, client and aging reports. This package is powerful enough for larger firms, yet easy enough for smaller firms.

Here is what Legal Billing can do for your professional office:

- Prints your client bills in a variety of formats
- Cuts billing time with fast and easy data entry, using up to 45 modifiable codes

- Increases office efficiency with numerous management reports
- Allows monthly or on demand billings
- Multiple matters per client
- Prints detailed statements in listed or paragraph format
- Handles up to 27 lawyers or employees
- Full use of the MAC Interface
- It's so easy you can begin using immediately
- Hard disk compatible
- \$595.00

Legal Billing and Bulk Mailer are available at your dealer or from Satori Software



Satori Software  
2815 Second Avenue,  
Suite 590  
Seattle, WA 98121

206/443-0765

Visa  
Mastercard  
American Express

## BULK MAILER

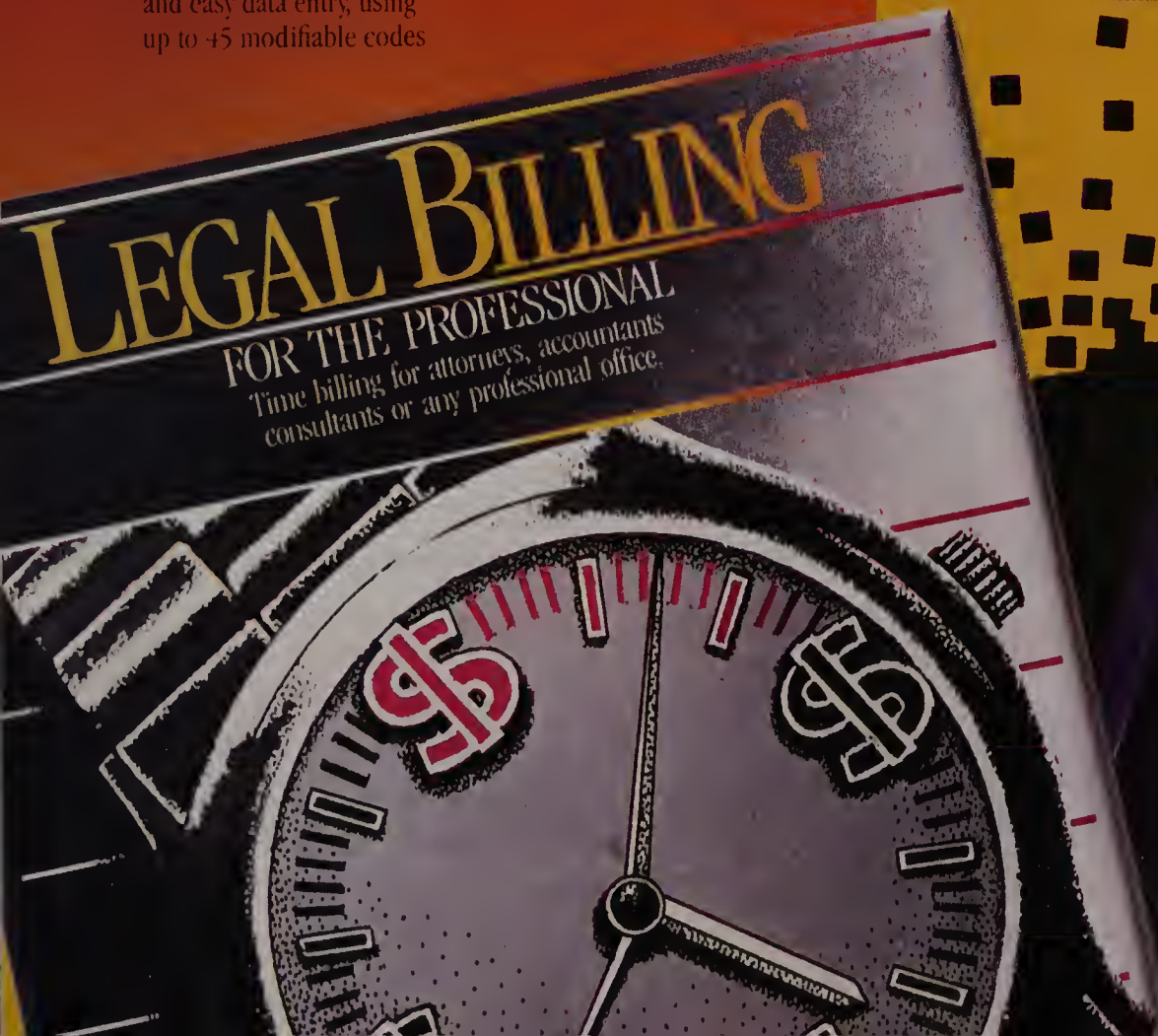
is a powerful program specially designed for managing mail lists, large or small. Bulk Mailer does everything you want in a mail list program, including duplication elimination, zip and alpha sorts 1 to 4 up labels printed, easy-entry defaults, multiple label format, plus much, much more. And this special Macintosh version is incredibly easy to use.

This is the only program to offer all these features:

- Duplication elimination
- Zip or alpha sort
- Car-rt sort or zip + +

- 1 to 4 labels or roster format
- Powerful coding capabilities
- Sophisticated global editing and deleting
- Mail merge with Microsoft Word
- Envelope printing
- Easy-to-use entry defaults
- Coding and date expiration fields
- Large record capacity (up to 4,400 names if used with 2 disk drives)
- Hard disk compatible
- Full use of the MAC Interface
- \$125.00

Macintosh is a trademark licensed to Apple Computers, Inc.  
Word is a trademark of Microsoft Corp.





# NOW YOU BUSINESS CAN DO MORE



The Helix environment from Odesta Corporation is based on the idea that above all, systems should be responsive to the needs of the people they serve. That whatever stands between you and the information you need is an obstacle, not a feature. That technology should narrow the gap between you and the time you need to do what you do best.

Helix is a data-based applications environment, since the core of any business system is most properly a data-based foundation.

This idea of Helix has evolved in response to a year of learning what you have been doing with Helix, to listening to you tell us what you want next, and to opportunities afforded by advanced technology.

Helix is an evolving environment. Today, Helix addresses the full range of business needs. Double Helix — development of tailored, secure applications. MultiUser Helix — sharing information in a multiuser network. RunTime Helix — runtime generation for applications publishing. Remote Helix — off-site access to the corporate information base.

Helix was designed as a complete data-based information management and decision support system. It provides a data-based “pool” into which you can put all kinds of information — text, numbers, pictures or ASCII data-communications.

#### **Helix — the system solution**

Once information is entered, it is then just as easy to examine from any angle, and use in any application. From reports, lists, and mail merge letters to analyses and interactive searches. All within Helix.

#### **Programming not required**

You don't have to learn a query language, spreadsheet formulae, report formatting or data-base algebra. You don't have to know a programming language or battle with command codes, modes, or imposed structure.

All you need with Helix is the desire to improve your business management and administrative systems.



#### **Custom menus and more**

Now, you can develop and then customize even more new, powerful applications within the Helix environment. Double Helix adds subforms, the fast creation of custom menus, password protection, data validation, extended data import and export capabilities, and optimized performance characteristics to the Helix environment. Of course, anything already built with Helix version 2.0 may be updated automatically to Double Helix.

#### **Build it up, lock it down, keep the key**

Double Helix lets you design a complete system to run a small business, medium office, or large departmental project. Custom menus then make the whole system easy to use by clearly associating forms with functions. Password protection lets you lock it down to prevent unauthorized changes. Yet, since one of the main features of the Helix environment is its ability to change as conditions change, you or your key users can easily make modifications on an as-needed basis.

\$495



A system that you can mix and match, and that expands as your needs grow.



# AND YOUR OF WHAT YOU DO BEST

## MultiUser<sup>ODESTA</sup>HELIX<sup>TM</sup>

### **The promise of a network**

The idea of running a business using shared information in a direct and affordable way has been one of the premises and promises of the "computer revolution" since it began. In a number of important respects, MultiUser Helix is the first fulfillment of that promise.

### **Just plug it in**

You don't have to worry about a "file server" or other special hardware. MultiUser Helix turns any hard disk into the host for a whole network. Just by using the "visit" command, you can be working within a dynamically interactive network, in which all windows are updated automatically.

### **Your office is a network**

With MultiUser Helix, everyone within a company or department can work from common project, inventory, customer, ordering or financial information. The direct benefits from both an operational and management perspective are dramatic.

\$695-\$2500

## RunTime<sup>ODESTA</sup>HELIX<sup>TM</sup>

Now, you can publish your own Helix applications with RunTime Helix. Any application built with Double Helix can be run through the runtime generator, creating a stand-alone program for sale or distribution.

### **Start a whole new business**

If you are an existing VAR, or an up-and-coming entrepreneur, here is the opportunity to leverage the dynamic attraction and functionality of Helix applications into a wide range of new business.

### **The birth of applications publishing**

Or you can easily provide a variety of applications to others within your organization...from expense reports to sales tracking; from departmental phone lists to project coordination.

By offering an organizational site licensing program for RunTime Helix, Odesta helps you bring a new dimension to the concept of "desktop publishing" — the in-house publishing of specialized applications.

\$500/10 applications  
(site license available)

## REMOTE<sup>ODESTA</sup>HELIX<sup>TM</sup>

Close the circle with Remote Helix — the way to communicate with your central Helix information base from the field, home, or satellite office — anytime.

### **A modem, and then magic**

You can modem straight into your "central" Helix, and be immediately on-line...as if you were working directly in your main office. And, if you are running a MultiUser Helix environment, Remote Helix will log you on as a live member of the network.

### **System access from anywhere**

Receive orders from, or transmit information to your sales force in the field; tie sites together for communication and coordination; or have 24-hour access to the heart of your business, no matter where you are. With Remote Helix, global telecommunications becomes a concrete management tool for you to use, now.

\$150



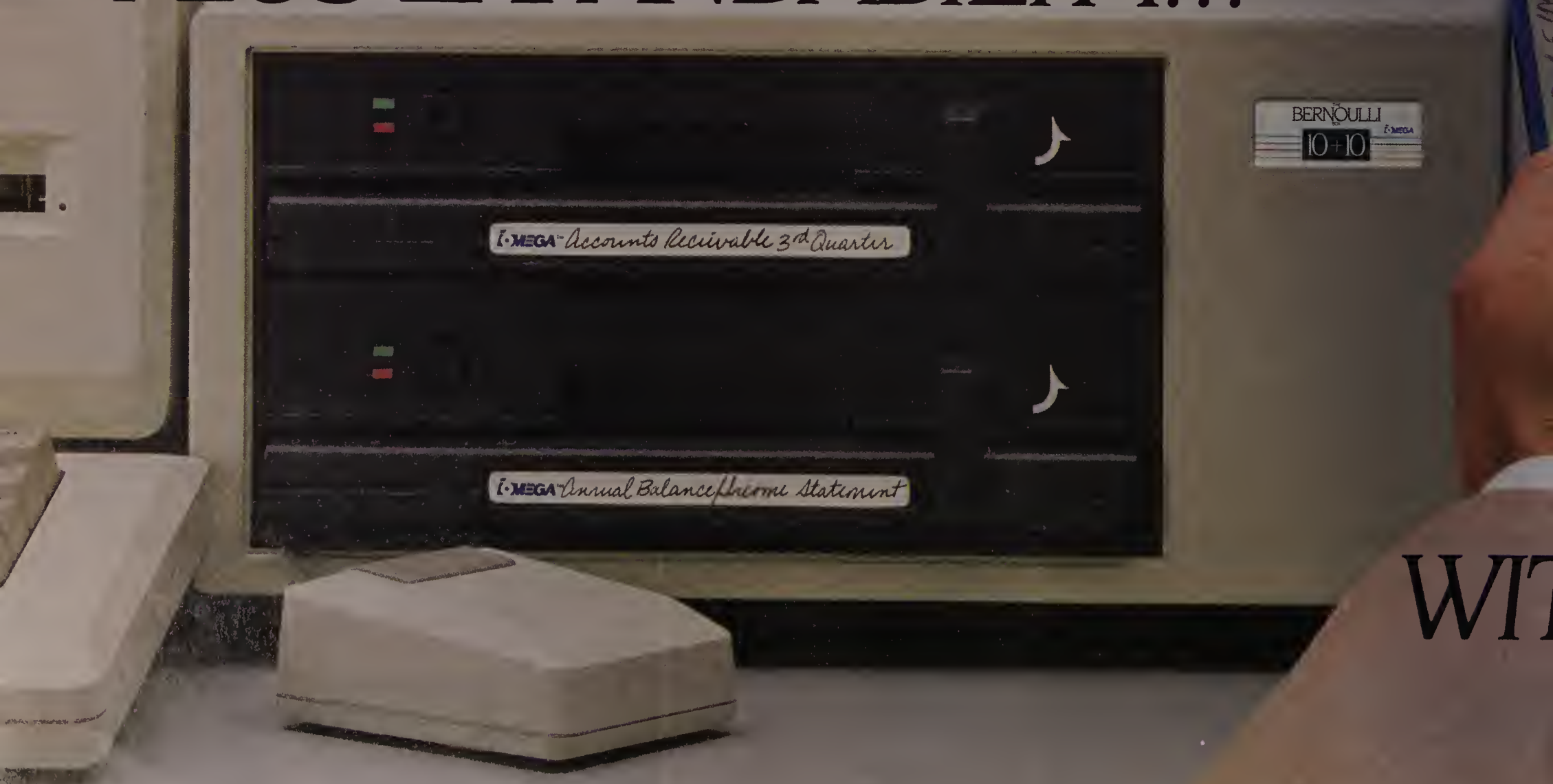
For corporate departments, small business/professional services, independent consultants, research establishments...

© 1986 Odesta Corporation. Odesta Helix is a registered trademark of Odesta Corporation, 4084 Commercial Avenue, Northbrook, IL 60062 U.S.A., 800-323-5423 (IL: 312-498-5615)

Circle 13 on reader service card



“YOU GET MASS STORAGE.  
PLUS LIGHTNING SPEED.  
PLUS WORKING BACKUP.  
PLUS BOOTABILITY.  
PLUS RELIABILITY.  
PLUS TRANSPORTABILITY.  
PLUS SECURITY.  
PLUS EXPANDABILITY...



WIT





INTRODUCING THE EXPANDED,  
MORE POWERFUL  
BERNOULLI BOX FAMILY  
FOR THE MACINTOSH PLUS.

*"With its incredible speed, we're free to do other, more important things with our time."*

*"With identical copy backup, we're free from the hassles of restoring data to the disk drive when we need it. It's always available."*

*"With its unsurpassed reliability, we're free from worries about head crashes and lost data."*

*"With its rugged, removable cartridges, we're free to work in a more flexible, task-oriented fashion, to take or mail data across country, to expand without the hardware expense, and to lock data up for total security."*

These are the things that satisfied users of The Bernoulli Box have been proclaiming for years. Now, with the changes Apple has built into the Macintosh Plus, The Bernoulli Box delivers add-on performance never before possible.

Speed no other mass storage device—inside, beside or underneath—has ever achieved. Immediately usable, identical copy backup. Fast, simple booting. And unparalleled versatility. The cartridges store and ship easily. They can be locked up for security. And when you need to add capacity, you add inexpensive cartridges, not expensive hardware.

Available in single and dual drive versions, and with either 5-, 10- or 20-megabyte cartridges, these new Bernoulli Boxes offer up to 40 megabytes of online capacity. And they join a popular family of Mac products that includes the original 5-megabyte, single-drive Bernoulli Box and our Network Server,<sup>™</sup> still the most functional data storage component for AppleTalk.<sup>™</sup>

The new Bernoulli Boxes for the Macintosh Plus. They deliver an unbeatable combination of plusses. Speed. Backup. Bootability. Reliability. Transportability. Security. And expandability. For more information on how to better manage your information, see your local dealer or call (800) 556-1234 ext. 215. In California, call (800) 441-2345 ext. 215.



IOMEGA CORPORATION, 1821 W. 4000 South, Roy, Utah 84067

*Ask Your Dealer About The Free Data Double-Up.*

H THE NEW BERNOUILLI BOX<sup>®</sup>  
FOR THE MACINTOSH PLUS.<sup>™</sup>

Circle 171 on reader service card



# The Care and Feeding of the Dragon

## Wizardry®



1 There are many reasons why Dragons are uncommon house-pets. Apart from being too big for most apartments, there is the expense of getting asbestos carpets. However, if you are thinking of getting a Dragon (perhaps to reduce your heating bills) you should know that today's Dragon is of a new breed. In the old days, the typical Dragon's idea of a good time was to strafe the castle, make off with the princess, and battle the inevitable knight in shining armor. The regrettable shortage of castles, princesses and knights (most of whom now rather unsportingly tote machine guns and light anti-tank weapons) has forced most modern dragons to pursue new hobbies. They play computer games.

MACINTOSH WIZARDRY

\*By ANDREW GREENBERG &  
ROBERT WOODHEAD

2 Not just any game will do. Dragons will play only the best, most involving, most challenging of games. It is for this discerning audience that we created Wizardry, the all-time most popular computer fantasy game. Now we have totally re-written Wizardry for the Macintosh, creating a new interpretation of the game designed to satisfy the cravings of the most demanding of players, be they dragon or human.

## Wizardry®

## Macintosh



LOOK FOR THE DRAGON.  
SYMBOL OF WIZARDRY.  
PROMISE OF EXCELLENCE.

\$59.95 AT YOUR LOCAL COMPUTER STORE.

\*Macintosh is a registered trademark of Apple Computer, Inc.

\*Wizardry is a registered trademark of Sir-tech Software, Inc.

Circle 372 on reader service card

**SIR-TECH**  
SOFTWARE INC.

6 MAIN STREET  
OGDENSBURG, N.Y. 13669  
(315) 393-6633



# The Myth of the MIS Manager

*After the revolution: Will the aristocrats and the anarchists sit down to tea?*



Not long ago I attended an industry outlook conference in Palo Alto sponsored by Technologic Partners, publisher of the *Computer Letter*. Various industry gurus at the seminar made forecasts, and although many pronouncements were predictable, there was one that seemed prophetic.

More accurately, it was an observation of a trend that has just now become recognizable.

Ed Esber, president of Ashton-Tate, gave a humorous account of some myths about the personal computer industry. He said it was high time they were dispelled.

The audience chuckled at his list of winners: the myth of the suggested retail price, the myth that integrated software is dead, the Philippe (Borland International) Kahn syndrome: "If you lower the price, you make it up in volume," and the myth that the customer always wants more features in software.

Ed related that he had always wanted to come up with four useless software features just to stack them up against the competition. Everyone laughed appreciatively.

But when Ed debunked the next bit of folklore—the myth that MIS managers have lost their power—a thoughtful silence prevailed in the room.

"Actually, they're reasserting themselves more and more," Ed observed about the role of management information systems directors in today's corporate environment.

While it's been true that until recently MIS managers have been complaining, like Rodney Dangerfield, that "I don't get no respect," Ed Esber's point is well taken.

The tide is turning, and the once-mighty autocrat of systems programming is again being regarded as a valuable citizen in the computing community.

This was brought into vivid focus for me when I received a copy of a new book written by a former colleague of mine, Forrest M. Mims III. Mims worked with me back in 1973 at a company called MITS in Albuquerque, New Mexico. The personal computer business was just beginning when the computer pioneer and founder of MITS, Ed Roberts, brought out the world's first personal computer, the Altair 8800.

Forrest Mims's book, *Siliconconnections. Coming of Age in the Electronic Era* (McGraw-Hill, 1986, \$16.95), is an incredible account of those days written from the perspective of someone who was, so to speak, present in the delivery room when personal computing was born.

It's full of never-before-published historical documents and rare references that I've never seen anywhere else. It's really an essential addition to anyone's reading list of computing reminiscences—sort of a *Ten Days That Shook the World* of the computer revolution.

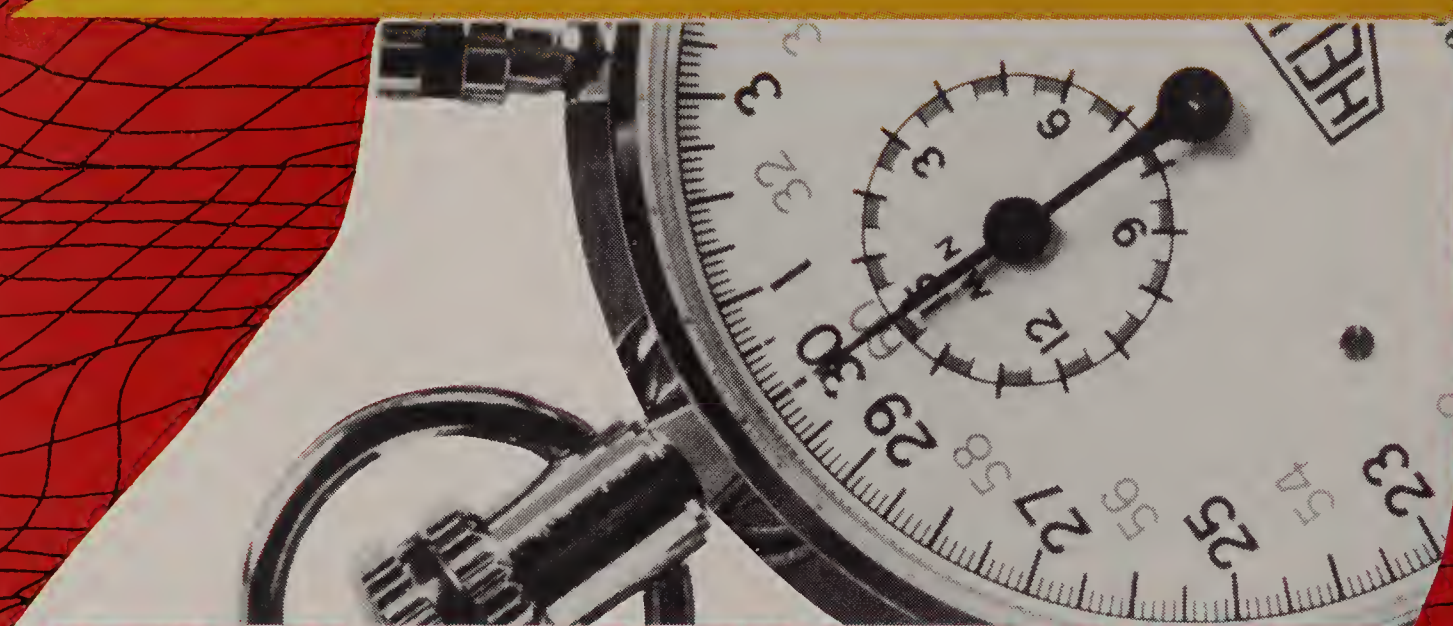
What got to me in the book was discovering a reprint of an irate letter written by an autocratic MIS manager to *Personal Computing*, the magazine that I had founded after I left MITS in 1977. The letter appeared in the September/October 1979 issue.

Remember, those were the days before there was an Apple II, a Radio Shack TRS-80, or an IBM PC. We printed articles about computer stores, interviews with personalities, and colorful ads for computers made by now-extinct companies like MITS, Processor Technology, Southwest Technical Products, and other pioneers.

*(continues on page 16)*

*The MIS  
manager is dead.  
Long live the MIS  
manager.*





# OMNIS 3, ALWAYS

OMNIS 3 is designed as the one database you will ever need to buy – whether you want a simple file manager or a complete business information system. As your database requirements increase, you can take advantage of OMNIS 3's powerful, mouse-driven programming language to customize applications in record time. *And as no other database, OMNIS 3 will grow with your needs.*

**OMNIS 3 COMES IN BOTH SINGLE-USER AND MULTI-USER VERSIONS.**

“OMNIS 3 is an ideal means to develop customized applications for Macintosh. It is a powerful development tool that provides multi-user solutions for vertical markets.” Guy Kawasaki, Manager, Software Product Management, Apple Computer.

“Multi-user capability; microcoding





# AHEAD OF ITS TIME.

with the mouse; automatic syntax; your own pull down menus and on-screen button commands...no wonder we're developing custom software in a fraction of the time it used to take with Assembler, Cobol, and the rest." Dr. Michael Sanders, The Program Workshop, Washington, D.C.

"As a straight database, OMNIS 3 functions faster than anything else around." Dr. Felix Evangelist, The Computer Room, Charlotte.

For the name of your nearest dealer call:

**(415) 571-0222**

**OMNIS 3** <sup>TM</sup>

Blyth Software  
2655 Campus Drive, Suite 150  
San Mateo, CA 94403

Macintosh is a trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, and is used with expressed permission of its owner.

Circle 38 on reader service card



(continued from page 13)

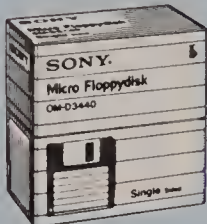
# FREE FREE

## Disk Bank or Sony Videotape

with purchase of

## Each 30 SONY (Labelled) Diskettes

Because your MAC Deserves the Best...



# SONY

Boxed in Tens

3.5" SS..... 1.75 ea.  
3.5" DS..... 2.75 ea.



Minimum order — 20 Diskettes — Quantity Discounts Available



Stores and files 30 3.5" disks —

**\$8.95 Each** or **FREE** with purchase of Each 30 SONY Labelled Diskettes.

SONY L-750 or T120 Blank Video Tape a \$5.95 Retail Value, **FREE** with purchase of Each 30 SONY Labelled Diskettes.

### Best Presents — the "Mac Pac"

Boxed in 50's      3.5" SS      3.5" DS

50 Piece "Mac Pac"..... 1.65 ea.      2.35 ea.

100 Piece "Mac Pac" ... 1.60 ea.      2.30 ea.

400 Piece "Mac Pac" ... 1.55 ea.      2.25 ea.

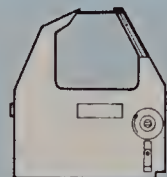
No FREE Disk Bank or Sony Videotape with "Mac Pac".



# SONY



Perfect Data 3.5" Head Cleaning Kit  
Good for 26 Cleanings  
**11.95**



Imagewriter Ribbons  
Black (2-11) **3.95 ea.** (12+) **3.35 ea.**  
Colored (2-11) **4.95 ea.** (12+) **4.35 ea.**  
Rainbow (6-Pack) **26.10** (**4.35 ea.**)  
Red, Green, Blue, Brown, Yellow and Purple



Compugard  
CPP-2 w/surge  
**29.95**  
CPP-12 w/surge & Noise **39.95**

**TO ORDER**      **1-800-351-BEST**  
**CALL TOLL FREE**      **1-800-451-BEST (in California)**

**For Information call 1-408-559-9339**

# Best

COMPUTER  
SUPPLIES

457 McGlincey Lane #4  
Campbell, CA 95008  
(408) 559-9339

Visa, Mastercard, C.O.D. or Prepaid. Corporations rated 3A2 or better, government agencies and schools may send in purchase orders on a net 30 basis. Minimum order \$25.00. Shipping charges are \$3.00 per 100 diskettes or fraction thereof (within the continental U.S.), APO, FPO, AK, HI and PR Orders add 10% to cover PAL and Insurance. C.O.D. Orders Add \$4.00. No Sales Tax outside California.

Satisfaction guaranteed on all products.

And we were promoting a concept called the "Lemonade Computer Service Company." This was a regular section that offered readers helpful advice on how to start up small businesses using personal computers.

Apparently, that idea proved a little too much for our blue-blooded correspondent. You can see from his letter just how far we've come since those turbulent days:

"Many of the things you say and imply in your magazine are very upsetting to me. . . . Your lack of respect for the institutions we have established is both rude and shortsighted. You should be grateful that the industry is making personal computers available to private individuals instead of pretending that just anybody should be allowed to use computers in any way he wants to. You should know that strong movement is under way to establish legal standards for licensing computer programmers. . . . The shabby Lemonade operator will become a memory of the past unless he learns his work properly, shows authorities that he deserves professional standing, and can really contribute to society. Cancel my subscription."

Rereading this letter reminds me how the personal computer really created a counterculture to the established computer culture of the day. That culture was dominated, of course, by the computer high priests—the MIS managers, who made all the decisions about computers in large institutions. In that sense, computers were thoroughly controlled because they were big systems, and you had to be tied into the system in order to use one.

Then the personal computer came along and liberated people from those constraints. This was instigated largely by a group of young electronic hobbyists who wanted to have their own computers and not be part of the corporate system. They didn't fancy the idea of being slaves to the MIS manager and the large computer systems.

Naturally, such rebelliousness created a negative reaction among the higher powers, as reflected in the letter to *Personal Computing*.

The question I'd like to pose is: Have we come full circle?

(continues on page 20)

Circle 373 on reader service card





**STARE AT THIS  
FOR 18.5 SECONDS.  
THANK YOU.  
YOU'VE JUST DEMONSTRATED  
THE BEST REASON  
TO OWN A HYPERDRIVE.**

It takes 18.5 seconds to start MacWrite on a regular 512K Macintosh. And only 5.5 seconds on the world's fastest Macintosh—namely, one with HyperDrive.

To demonstrate the second best reason to own a HyperDrive, stack fifty diskettes atop one another. HyperDrive holds up to that much data without enlisting outside help from any diskettes at all.

The next demonstration will require a little imagination. Imagine a Macintosh with software that protects your data by copying it onto diskettes.

A print spooler that lets you go on to other jobs while your printer is occupied. And a security program that protects your files from unauthorized entry. You've just imagined a Macintosh with HyperDrive.

The next demonstration requires no imagination at all. Just stare at your Macintosh. Since HyperDrive is the only hard disk that's installed inside the Mac, it's the only one that preserves the Mac's appearance and portability.

But for the most convincing demonstration of all, perform this simple operation: Visit an authorized

General Computer dealer. He'll show you all the reasons why HyperDrive is, in the words of Macworld, "the happiest marriage of the Macintosh and a hard disk."

For further details, call us at (800) 422-0101 or (617) 492-5500.\*



**GENERAL  
COMPUTER**

The leading edge starts here.

\*In Canada, call our distributor at (800) 565-1267 ©1986 General Computer Corp. HyperDrive, the General Computer Corp. logo and The leading edge starts here are trademarks of General Computer Corp. Apple and MacWrite are trademarks of Apple Computer, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.





# SOME HISTORIC BREAKTHROUGHS DON'T TAKE AS MUCH EXPLAINING AS COMPUSEVE.

**But then, some historic breakthroughs could only take you from the cave to the tar pits and back again.**

CompuServe, on the other hand, makes a considerably more civilized contribution to your life.

It turns that marvel of the 20th century, the personal computer, into something useful.

Unlike most personal computer products you read about, CompuServe is an information service. It isn't software. It isn't hardware. And you don't even have to know a thing about programming to use it. You subscribe to CompuServe—and 24 hours a day, 7 days a week, it puts a universe of information, entertainment and communications right at your fingertips.

**A few of the hundreds of things you can do with CompuServe.**

## COMMUNICATE

**EasyPlex™** Electronic Mail lets even beginners compose, edit, send and file messages the first time they get online. It puts friends, relatives and

business associates—anywhere in the country—in constant, convenient touch.

**CB Simulator** features 72 channels for “talking” with thousands of other enthusiastic subscribers throughout the country and Canada. The chatter is frequently hilarious, the “handles” unforgettable, and the friendships hard and fast.

**More than 100 Forums** welcome your participation in “discussions” on all sorts of topics. There are Forums for computer owners,

gourmet cooks, investors, pilots, golfers, musicians, you name it! Also, Electronic Conferencing lets businesses put heads together without anyone having to leave the shop.

**Bulletin Boards** let you “post” messages where thousands will see them. You can use our National Bulletin Board or the specialized Bulletin Boards found in just about every Forum.

## HAVE FUN

**Our full range of games** includes “You Guessed It!”, the first online TV-style game show you play for real prizes; and MegaWars III, offering the

ultimate in interactive excitement. And there are board, parlor, sports and educational games to play alone or against other subscribers throughout the country.

**Movie Reviews** keep that big night at the movies from being a five star mistake.

## SHOP

**THE ELECTRONIC MALE™** gives you convenient, 24-hour-a-day, 7-day-a-week shopping for name brand goods and services at discount prices from nationally known stores and businesses.

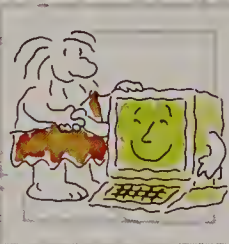
## SAVE ON TRIPS



**Travelshopper™** lets you scan flight availabilities (on virtually any airline—worldwide), find airfare bargains and order tickets right on your computer.

**Worldwide Exchange** sets you up with the perfect yacht, condo, villa, or whatever it takes to make your next vacation *a vacation*.

**A to Z Travel/News Service** provides the latest travel news plus complete information on over 20,000 hotels worldwide.





## MAKE PHI BETA KAPPA

**Grolier's Academic American Encyclopedia's Electronic Edition** delivers a complete set of encyclopedias right to your living room just in time for today's homework. It's continuously updated... and doesn't take an inch of extra shelf space.



**The College Board**, operated by the College Entrance Examination Board, gives tips on preparing for the SAT, choosing a college and getting financial aid.

## KEEP HEALTHY

**Healthnet** will never replace a real, live doctor—but it is an excellent and readily available source of health and medical information for the public.

**Human Sexuality** gives the civilization that put a man on the moon an intelligent alternative to the daily "Advice to the Lovelorn" columns. Hundreds turn to it for real answers.

## BE INFORMED

**All the latest news** is at your fingertips. Sources include the AP news wire (covering all 50 states plus



national news), the Washington Post, USA TODAY Update, specialized business and trade publica-

tions and more. You can find out instantly what Congress did yesterday; who finally won the game; and what's happening back in Oskaloosa with the touch of a button. And our electronic clipping service lets you tell us what to watch for. We'll electronically find, clip and file news for you...to read whenever you'd like.

## INVEST WISELY

**Comprehensive investment help** just might tell you more about the stock you're looking at than the company's Chairman of the Board knows. (Don't know who he is? Chances are, we can fill you in on that, too.) CompuServe gives you complete statistics on over 10,000 NYSE, AMEX and OTC securities. Historic trading statistics on over 50,000



stocks, bonds, funds, issues and options. Five years of daily commodity quotes. Standard & Poor's. Value Line. And more than a dozen other investment tools.

**Site II** facilitates business decisions by providing you with demographic and sales potential information by state, county and zip code for the entire country.

**National and Canadian business wires** provide continuously updated news and press releases on hundreds of companies worldwide.

## GET SPECIALIZED INFORMATION

**Pilots** get personalized flight plans, weather briefings, weather and radar maps, newsletters, etc.

**Entrepreneurs** use CompuServe too for complete step-by-step guidelines on how to incorporate the IBMs of tomorrow.

**Lawyers, doctors, engineers, military veterans and businessmen of all types** use similar specialized CompuServe resources pertinent to their unique needs.

## And now for the pleasant surprise.

Although CompuServe makes the most of any computer, it's a remarkable value. With CompuServe, you get low start-up costs, low usage charges and local phone-call access in most major metropolitan areas.

## Here's exactly how to use CompuServe.

First, relax.

There are no advanced computer skills required.

In fact, if you know how to buy breakfast, you already have the know-how you'll need to access any subject



in our system. That's because it's "menu-driven," so beginners can simply read the menus (lists of options) that appear on their screens and then type in their selections.

Experts can skip the menus and just type in "GO" followed by the abbreviation for whatever topic they're after.

In case you ever get lost or confused, just type in "H" for help, and we'll immediately cut in with instructions that should save the day.

Besides, you can either ask questions online through our Feedback service or phone our Customer Service Department.

## How to subscribe.

To access CompuServe, you'll need a CompuServe Subscription Kit, a computer, a modem to connect your computer to your phone, and in some cases, easy-to-use communications software. (Check the information that comes with your modem.)

With your Subscription Kit, you'll receive:

- a \$25 usage credit.
- a complete hardcover Users Guide.
- your own exclusive user ID number and preliminary password.
- a subscription to CompuServe's monthly magazine, *Online Today*.

Call **800-848-8199** (in Ohio, 614-457-0802) to order your Subscription Kit or to receive more information. Or mail this coupon.

Kits are also available in computer stores, electronic equipment outlets and household catalogs. You can also subscribe with materials you'll find packed right in with many computers and modems sold today.



- ☐ Please send me additional information.
- ☐ Please send me a CompuServe Subscription Kit.
- ☐ I am enclosing my check for \$39.95, plus \$2.50 handling. (Add sales tax if delivered in Ohio.)

Please make check payable to CompuServe Information Services, Inc.

- ☐ Charge this to my VISA/MasterCard

# \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

MAIL TO:

# CompuServe®

Customer Service Ordering Dept.

P.O. Box L-477

Columbus, Ohio 43260

PRI-3203

An H&R Block Company

EasyPlex and ELECTRONIC MALL are trademarks of CompuServe, Incorporated. Travelshopper is a service mark of TWA.



## Your choices for languages just got a whole lot better.

### Because now there's True BASIC™ for the Macintosh.

It's the same structured language that *BYTE* called "superior to Microsoft BASIC." The same syntax that *PC Magazine* thought was "the easiest-to-learn of all the BASICs I've had the pleasure of reviewing." And that led *Electronic Learning* to conclude, "Good graphics have never been easier in a high level language."

True BASIC is the latest from John Kemeny and Tom Kurtz, the inventors of BASIC. It's a compiler and editor that understands external libraries, matrix algebra and recursion. A package that *Classroom Computer Learning* honored among their "Outstanding Software of 1985." And now it's here for the Macintosh. With the Mac editing environment, and full access to the Toolbox. At speeds fast enough to do some real programming.

On top of that, we have libraries to help you do things like sorting and searching, or 3-D graphics. Our Runtime Package allows you to produce stand-alone, "clickable" applications.

So whether you're working on the Macintosh, the IBM®PC, or the Amiga, now there's a consistent BASIC for you to use. At a suggested retail price of \$149.90. To learn more, talk to your dealer. Try our demo disk. Contact Addison-Wesley Publishing for educational bulk discounts and site licenses. Or call us at (603) 643-3882. We'll show you the latest from the inventors of BASIC.

**True BASIC, Inc.  
39 South Main St., Hanover, NH 03755.**

*True BASIC is a trademark of True BASIC, Inc. IBM is a registered trademark of International Business Machines, Inc. Macintosh is a trademark licensed to Apple Computer, Inc. Amiga is a trademark of Commodore-Amiga, Inc. Microsoft is a registered trademark of Microsoft Corporation.*

**Circle 469 on reader service card**

(continued from page 16)

Are the MIS managers indeed regaining control of the personal computer, or will it continue to be out of their hands? Traditionally, they controlled the small department that had power over all a company's computers and software. They could, therefore, constrain users to do certain things in a certain way.

Today, people using personal computers spill outside of the MIS department into all the departments of a corporation. All the managers have them, all the accountants, all the inventory people, all the marketing folk. That's how MIS managers lost control of their electronic flock in the first place.

Yet the problem from the corporate viewpoint is, how do you make sure that the information you're getting is consistent? You have to control what users are doing to an extent.

For example, an average user cannot possibly have the time to examine all the underlying assumptions and formulas contained in every spreadsheet. If one little cell in the formula or in the assumption is inaccurate, it can throw off all the results. As a manager, you could end up agreeing to a budget or to a new project that was based on a false assumption you weren't even aware of.

So it's vital that the MIS manager continue to influence the way the computer is used throughout the entire organization. You do need some simple standardization when users exchange data. Only then can you have reasonable assurance that the assumptions and the formulas and the way things are done are valid.

The real challenge is not one of who controls or doesn't control personal computing. Rather, it's one of creating a balance so that the people with the expertise in personal computers and mainframes can influence the organization—but not have the power to stifle it.

What we really need is an evolution of MIS managers rather than a reinstatement of them as the ultimate power brokers.

The thrust of personal computing among the freethinking young hackers in the early days was to create a state of anarchy. Their battle cry was: "Forget MIS managers! They're dinosaurs."

(continues on page 24)



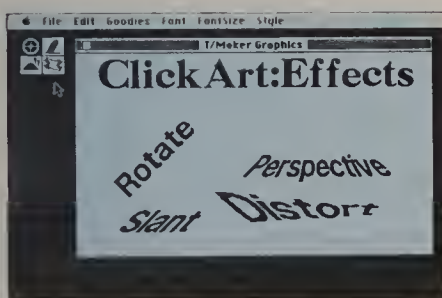
# ClickArt® & ClickOn™

Six ways to work smarter and look better using your Macintosh™



## ClickArt Effects

Now you can produce the special effects you've always wanted in MacPaint. Rotate your words or pictures a few degrees at a time. Or slant them. Or give them perspective through a vanishing point. Or even use a distortion box to create the perception of a twist. All with four new tools called ClickArt Effects.



**ClickArt Effects**  
Price: \$49.95



## ClickArt Holidays

You'll get dozens of Christmas and Chanukah images, as well as art for Thanksgiving, Fourth of July, Easter, Valentine's Day, Mother's Day, Father's Day, Graduation and Halloween.

**ClickArt Holidays**  
Price: \$49.95



## ClickArt Letters

ClickArt Letters contains 24 high quality typefaces in large point sizes (24, 36, 48 and 72 point) that make your headlines and overhead transparencies come alive.

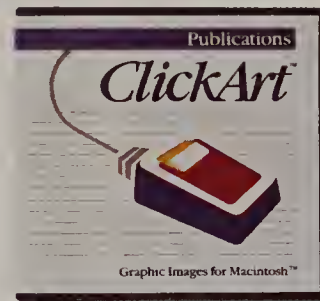


**ClickArt Letters**  
Price: \$49.95



## ClickArt Personal Graphics

Personal Graphics is a disk-full of contemporary images from small dingbats to full-screen portraits. Images include Einstein, Michelangelo's David, animals, cartoons, cars, wine bottle, city skyline. They're great for adding a personal touch to invitations or stationery.

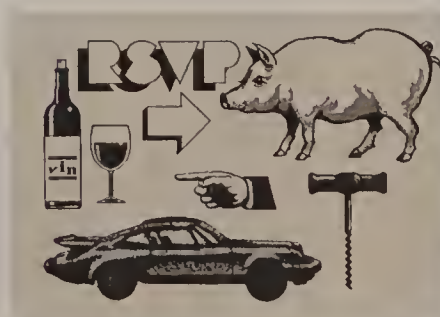


## ClickArt Publications

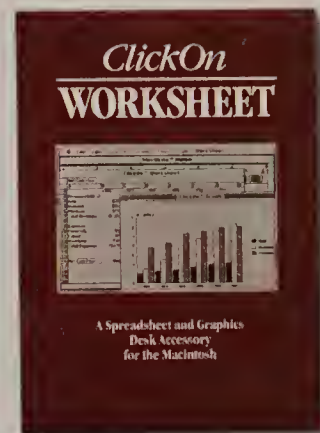
ClickArt Publications is a collection of images specifically designed for creating newsletters, flyers and invitations. It includes two- and three-column layout guides with illustrated headlines (like "Letters to the Editor," "On Vacation," "Party," "Thanks" and "Bon Voyage") sized to fit the layouts. It also contains cartoons, maps of the USA and Europe, illustrated alphabets, and much more.



**ClickArt Publications**  
Price: \$49.95

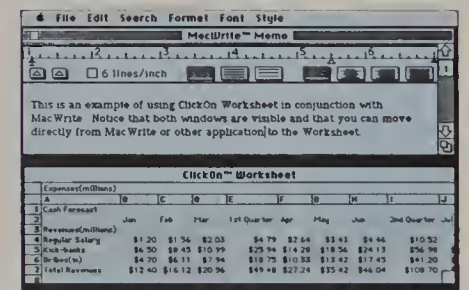


**ClickArt Personal Graphics**  
Price: \$49.95



## ClickOn Worksheet

ClickOn Worksheet is a desk accessory that adds a spreadsheet and grapher to any application. The 50 row x 20 column spreadsheet includes features such as variable column widths, absolute/relative addressing, built-in financial calculations (like net present value, compounding, future value) and logical operators.



**Requirements:**  
128k or 512k Macintosh™

**ClickOn Worksheet**  
Price: \$79.95

## For More Information!

Stop by your dealer and check out all our Macintosh products —Or call or write to us to receive a free catalog showing all the images and describing each package.

T/Maker Graphics  
2115 Landings Drive  
Mountain View, CA 94043  
415/962-0195



# It's amazing what you can reveal when you strip.

Introducing a shape that's about to turn on an entire industry.

The Softstrip™ data strip. From Cauzin.

This new technology allows text, graphics, and data to be encoded on a strip of paper, then easily entered into

your computer using a scanning device called the Cauzin Softstrip™ System Reader.

Creating a simple, reliable and cost efficient way to distribute and retrieve information.

Softstrip data strips, like those you see here, can contain anything that can be put on magnetic disks.

Facts. Figures. Software programs.

Video games. Product demonstrations.

Sheet music.



The Cauzin Softstrip System Reader is now compatible with the IBM PC, Apple II and Macintosh.

A single strip can hold up to 5500 bytes of encoded data.

It can stand up to wrinkles, scratches, ink marks, even coffee stains.

And it can be entered into your computer with a higher degree of reliability than most magnetic media.

Simply by plugging the Cauzin Reader into your serial or cassette port and placing it over the strip.

The reader scans the strip, converts it to computer code, and feeds it into any standard communication interface.

Because strips are so easy to generate, most of your favorite magazines and books will soon be using them in addition to long lists of program code.

And you'll be able to enter programs without typing a single line.

There is also software for you to generate your own strips.

Letting you send everything from correspondence to business information using our new technology.

Find out how much you can reveal by stripping. Just take this ad to your computer dealer for a demonstration of the Cauzin Softstrip System Reader.

Or for more information and the name of the dealer nearest you, call Cauzin at 1-800-533-7323. In Connecticut, call 573-0150.



The Cauzin Softstrip System Reader replaces tedious typing by scanning the strip and reading it into your computer.



Soon everyone will be stripping as data strips appear in popular magazines, computer books and text books.



Cauzin Systems, Inc.  
835 South Main St., Waterbury, CT 06706

Circle 452 on reader service card



# WHERE IT'S AT IN MAC WORLD

You remember that MACWORLD ran an interesting article called "Banking on the Macintosh", but you can't remember which issue it was in. You look at the issues on your bookcase shelf and realize that you'll have to go through each and every magazine to find the article.

The data strips on the right contain the MACWORLD 1985 Annual Index.

The index is arranged by subject. The index on these data strips is in the form of a simple MAC WRITE file. The file is entitled MAC.BIN. Open the file and scroll down the page to see the article listings.

By the way, the "Banking on the Macintosh" article appeared in the September issue on page 50. In the article, author Lon Poole explains how Seafirst bank uses several thousand Macintoshes! Don't miss it.

Copyright ©1986 PC World Communications, Inc. All rights reserved  
Reprinted with permission of MACWORLD, a publication of PC World Communications, Inc.





(continued from page 20)

## The Mouse Is Out!



Macintosh-  
Integrated  
Digitizer

The Macintizer is *better* than a mouse: its stylus gives you precise control for drawing, you can trace original artwork, and it won't clog or skip.

PLUS, the Macintizer plugs directly into the mouse port for 100% compatibility with all your programs—no software modifications required.

Turn your Macintosh into the graphics machine it was meant to be—with the Macintizer.

Contact your dealer or GTCO Corporation for more details.



**GTCO Corporation**

1055 First Street, Rockville, MD 20850  
Phone: (301) 279-9550 Telex: 89-8471

First, the hackers declared independence, then they had their revolution, and finally they did away with the landlords.

Now that the industry has matured and mellowed, it's time for a new era of understanding between the creative spirits and the new and more secular class of the computer priesthood.

After all, the MIS manager does have the knowledge to evaluate systems and software better than most other people in the company. The alternative, when people use a hundred different programs without rhyme or reason, is chaos. We find ourselves operating within a software Tower of Babel.

I firmly believe that now is the time for accommodation on both sides. MIS managers must give up a certain amount of control—they don't have to determine every single piece of hardware or software that's bought by a corporation. But they should know what's going to be bought ahead of time so they can advise users and work with them to determine the best strategies.

At the same time, users should regard the MIS manager as an ally.

It's like having an absolute monarchy turn into a constitutional monarchy. The king still has a lot of power and influence and a certain degree of control, but not the absolute final decision.

So, it's true all right. We have come full circle.

The MIS manager is dead. Long live the MIS manager.

### Macworld Welcomes New Editor

Jerry Borrell comes to us with a wide magazine and editorial background. He has served as editor for several magazines and contributed over a hundred articles for magazines and books in the past few years. Jerry also worked on computer and communications technologies for the Congressional Research Service.

Among Jerry's reasons for joining the *Macworld* staff as editor is a belief that "the Macintosh interface represents the first step toward fifth generation technologies. That is, toward computers that access knowledge, not merely data. This is reflected in the Mac's new open architecture, and is likely to surface in voice, color, and concurrent processing."



Jerry Borrell

Jerry Borrell succeeds Kearney Rietmann, who was with *Macworld* from the earliest days of the Mac. She took over *Macworld* in its third issue and shepherded its success and growth for the intervening 19 issues.

Kearney, who lives in San Rafael, California, is establishing her own consulting firm. Her intention is to draw from her experience as editor to forward relationships between computer companies and the advertising and editorial sides of the media. She will also be working on book projects.

For the future you can expect us to continue with the most important and succinct information about the Mac. We will also be reporting on the increasing role that will be played by third party vendors with Apple, for both hardware and software.

I often hear from readers, and I want to let you know I appreciate this. I consider your questions and feedback vital to the continued growth and thrust of our magazine. *Macworld* will continue to serve as a forum for Macintosh users, providing the most strategic and lively coverage for the Mac and presenting effective solutions. □



# "POWER OF THE PRESS"

**Silicon Press™—the indispensable Mac print utility.**

Now you can easily add quality graphic impact to repetitive stickers, cards, envelopes, labels, and other identifiers. Silicon Press lets you jazz them up with creative designs.

Add your company logo to your mailing labels. Print your addressees' names in a big font so they really feel important. Silicon Press lets you freely mix text and pasted-in graphics, font styles and sizes.

Create custom product or price labels. Silicon Press lets you move and resize your text and graphics

images at will. You can set up individual formats to fit any label shape, size, or layout.

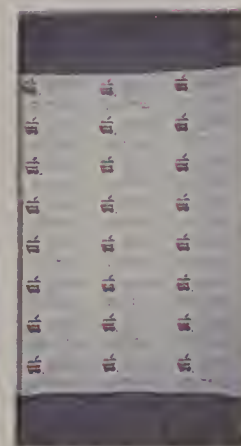
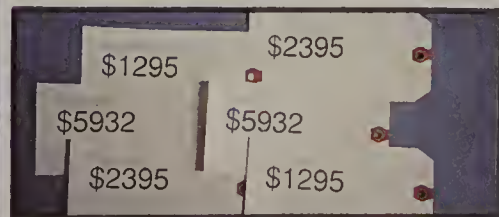
Forget retyping existing data. Silicon Press merge-prints data from any database that creates a Mac text file. Or type new text in the data window using the Mac's standard text editing features.

Silicon Press produces top-notch output. Print in seven gorgeous colors with the ImageWriter II. Or produce sophisticated typeset quality with the LaserWriter.



## Silicon Press™

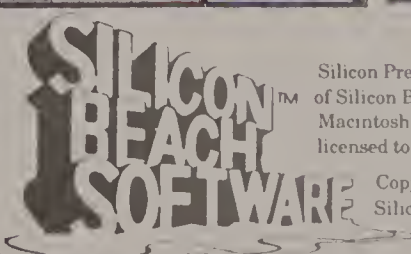
Silicon Press creates custom identifiers to organize, highlight, mark, or communicate just about anything. Why be stuck with boring postcards, plain labels, or colorless badges? The Silicon Press disk includes sample layouts for labels and keytops, postcards and envelopes, rotary and index cards, price tags and stickers, diskette and cassette labels. You'll find your own endless uses for Silicon Press. At only \$79.95, it's another excellent value from Silicon Beach Software. For 512K Macintosh and Mac XL.



See your local dealer or send \$79.95  
(CA residents add \$4.80 tax) plus \$3.00  
for shipping to:

Silicon Beach Software  
P.O. Box 261430  
San Diego, CA 92126

Or call (619) 695-6956  
(Visa or Mastercard accepted)



Silicon Press is a trademark  
of Silicon Beach Software, Inc.  
Macintosh is a trademark  
licensed to Apple Computer, Inc.

Copyright © 1985  
Silicon Beach Software, Inc.

Circle 266 on reader service card



# Microsoft Excel. For those who

You may speak more softly now.

For we are delivering into the hands of business, a very big stick.

Microsoft® Excel for the Macintosh.™ A financial analysis tool of unprecedented power.

First and foremost, Microsoft Excel is the most

formidable spreadsheet ever to run on a personal computer.

A spreadsheet which is in turn linked with an extraordinary graphics program and a highly capable data filing application.

These already considerable powers are magnified geometrically by Macros.

Which give Microsoft Excel

Enchantment Lakes Corporation		
For the fiscal years ended June 30, 1985, and 1986		
(Dollars and shares in thousands, except per share amounts)		
	1985	1986
Net sales	\$2,191,344	\$1,675,000
Net income	\$114,252	\$65,320
Earnings per share	\$1.72	\$1.02
Pretax profit margin	9.1%	7.2%
Income tax rate	43.1%	45.7%
Return on net sales	5.2%	4.0%
Working capital	\$813	\$1,010
Total assets	\$1,010	\$1,010
Shareholders' equity	\$1,010	\$1,010
Return on equity	11.1%	6.6%
Return on assets	11.1%	6.6%
Research and development	\$1,010	\$1,010
Marketing expenses	\$1,010	\$1,010
Number of shares outstanding	127,000	167,000



# appreciate the uses of power.

the capacity to learn your most complex routines. And activate them with a single keystroke.

Yet for all its ability, Microsoft Excel is simple to learn, simple to use. No complex commands to memorize. No classes to take. The only thing complicated about Microsoft Excel is the problems it can solve.

See your Microsoft dealer for a demon-

stration of the powers of Microsoft Excel.

In the right hands, a potent weapon, indeed, in the cause of commerce.

We trust you will use it responsibly.

## Microsoft Excel

The rest are history.

You can upgrade to Microsoft Excel from Microsoft Multiplan<sup>®</sup> for the Macintosh. For the name of your nearest dealer call (800) 426-9400. In Washington State and Alaska, (206) 828-8088. In Canada, call (800) 387-6616.

Microsoft is a registered trademark of Microsoft Corporation  
Macintosh is a trademark licensed to Apple Computer, Inc





# Don't be overwhelmed

The good news is that virtually all of you who follow these things know that Microsoft® Word is by far the most capable word processor you can run on a Macintosh.™

The too bad news is that some of you think that means you're not qualified for Word.

Well, you don't need to be writing a novel to appreciate the way Word accelerates all the repetitive activities of word processing.

In fact, if you've ever needed to combine information from old files in a new one, or if you've ever had to shut down one file just to look at another—then you're ripe for Word.

## Leave the windows open.

For people who've gotten used to the tedium of closing one job before they could open the next, Word's windows are a real eye-opener.

Because this feature—an exclusive, we must add—lets you display four

different Word documents on screen at one time. And leap rapidly from one to another, cutting and pasting among them.

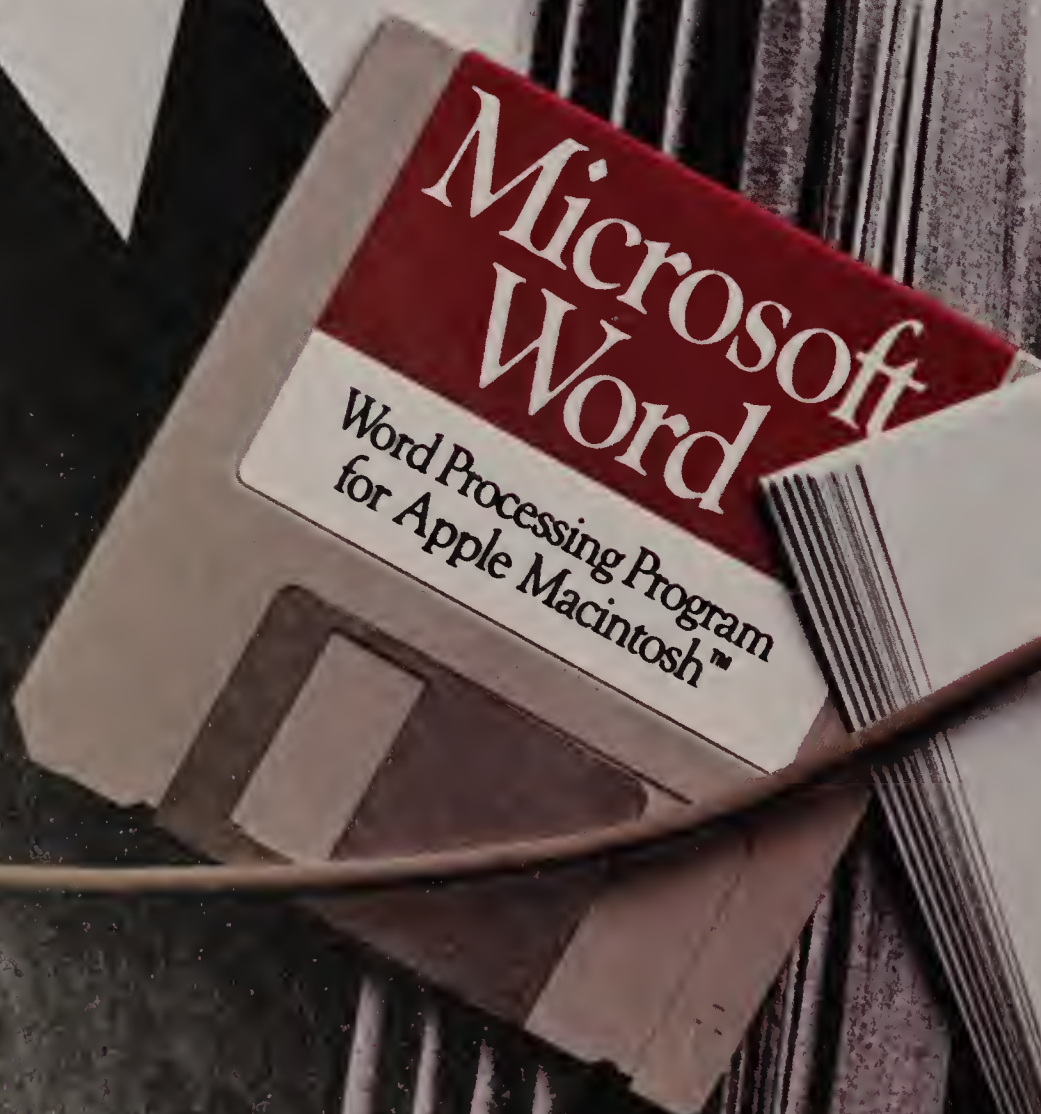
A real time saver, even if you're only composing a memo. If, say, you needed to combine material from your three previous memos into a fourth new one.

## The training wheels aren't welded on.

Some things *are* best done with mouse and menus. But once you've worked with a Macintosh for a while, you'll want the option to run commands from the keyboard as well. A faster way to order up everything from opening and closing files and starting a new file, to printing and saving, to changing font styles or page formats. It's an option only Word gives you.

## Avoid the risk of repeating yourself.

For everyone who hates to type the same thing twice, the Glossary alone has been enough to convert them to Word. In the Glossary you can store letterheads, standard disclaimers, the party line. Or



PRIME DEVELOPMENT CO.  
"Cutting you the best deal possible"

March 19, 1986

Gary Williams  
Metropolitan Landscaping  
634 Tradewinds Way  
Santa Maria, CA 98034

Re: Gotham Square - Project No. 83-2014 - Metro Landscaping

Dear Gary:

Per our conversation yesterday, I wanted to send to you by Metropolitan Landscaping for the Gotham Square original estimate in every case, and we will be unable to provide explanation and back-up.

Project



# by superiority.

mumbo jumbo. All can be instantly retrieved with a keystroke.

At the bottom of this ad you'll find trademark info and other legal niceties. Perfect examples of things to keep in your Glossary.

## Word won't hold you back.

If you need to do professional quality word processing on the Macintosh, we're pleased to say your choices are limited. To Microsoft Word.

A monopoly you will not mind. Because Word gives you everything your literate heart could desire. Noteworthy being unlimited manuscript length. Just keep writing 'till your disk runs out. Then put in another disk.

Word also runs the most popular letter quality printers. As well as the Apple® LaserWriter. For astonishing results.

In fact, you can astonish everyone you've ever known with Word's exclusive mail merge feature. Which lets you match form letters with address lists. Putting mass mailing in the reach of anyone who seeks a vast audience.

## You'll pick up Word fast.

We were smart enough to make Word supremely capable. We weren't going to be dumb and make it hard.

As the designers of more Macintosh applications than anyone else, we give Word the benefit of our unmatched experience. Along with a very comprehensive on-line Help feature. Making Word a very quick study.

And if you should ever have a question you can't work out on your own, our telephone support people will walk you through it.

So before you process another paragraph, test scribe the program from Microsoft. And never be at a loss for Word.

# Microsoft® Word

The High Performance Software™



For the name of your nearest Microsoft dealer, call (800) 426-9400. In Washington State and Alaska, (206) 828-8088. In Canada, call (800) 387-6616.

Microsoft is a registered trademark and The High Performance Software is a trademark of Microsoft Corporation. Apple is a registered trademark of Apple Computer, Inc. Macintosh is a trademark of McIntosh Laboratory, Inc. and is used with its express permission.



10 MB \$999

If you've been waiting to buy a hard disk for your Mac till Apple introduced their version, the long wait is over.

And look what they've given you. A disk drive that has the same footprint as your Mac. Makes it 3½" taller. And does who-knows-what to its carefully thought-out ergonomics.

That's why we think you should take a closer look at the Paradise MAC 10 and MAC 20.

Start with the case: instead of jacking your screen way up in the air, our drive sits right next to your Mac. And looks like it belongs there. In terms of styling, proportion, and balance, it's a perfect fit.

And that's just the surface. Inside, you'll find a full 10 or 20 MB. A lightning-fast 85 ms average seek time. An extra serial port. And the kind of reliability that lets us give you a one-year warranty.

So if you've been waiting for a hard disk that matches your Mac inside and out, go look at the MAC 10 and MAC 20. At better Apple dealers who know a good thing when they see one.

# The perfect hard disk for your Macintosh might not be an Apple.

Paradise Systems, Inc., 217 East Grand Ave., South San Francisco, CA 94080  
(800) 822-2020 Ext. 312 (CA) or (800) 527-7977 Ext. 312 (Outside CA)

Trademarks: Paradise, MAC 10, MAC 20—Paradise Systems Inc. Macintosh, MAC—Apple Computer, Inc. Paradise Systems reserves the right to change specifications without notice.

**PARADISE**  
SYSTEMS, INC.



# Confessions of a Corporate User

*Even in personal computers, power can be addictive. Here's how corporations can kick the habit.*



*Most users never come anywhere near the limits of their computer's capabilities.*

In corporate America's bigger-is-better atmosphere, the personal computer as desktop behemoth seems destined to become standard equipment. Why is so much power sought by so many corporations? I believe that the need for megamachines in the corporate environment is vastly overstated and that the desire for more powerful computers can even be harmful.

As a former "power user," I appreciate the powerful personal computers that proliferate in the marketplace. They offer more speed, memory, and convenience than the mainframe computer that I used in college. Some people productively use each bit of RAM and every byte of disk space that designers cram into a desktop computer. But for most of us, that extra memory and speed remain unused. In today's business world, where the personal computer is rapidly becoming standard equipment, the waste of corporate overequipping reaches staggering proportions. A \$9000 investment in employee productivity is certainly reasonable, but if a \$3000 machine could provide the employee with the same opportunities to be productive, then a lot of money is being spent to no advantage—especially when 50, 100, or 1000 employees are similarly overequipped.

## **Standards and Status**

There are several reasons for this blind application of computer power. First, in many companies the Management Information Systems (MIS) department is responsible for evaluating, recommending, and servicing personal computer equipment. In a firm in which hundreds, even thousands, of employees have personal computers, it makes sense to standardize software and hardware. This is what I call the "Detroit V-8 approach," standardizing on maximum RAM and disk storage, rea-

soning that most of the time you don't need it, but it's nice to have just in case. It's a safe approach: no one runs out of memory or storage, and the software can handle nearly any task thrown at it. The problem is that these systems are underused. Most users never come anywhere near the limits of their computer's capabilities. Employees are afraid or unwilling to learn and experiment with hardware and software that seems forbiddingly complex.

Another reason for overequipment is status. In many corporations, big personal computers are like big desks and big offices: they are a statement of the user's importance. Therefore, if you don't have as powerful a system as the person down the hall—regardless of what you do—then you aren't as important. I have seen more than one maxed-out personal computer sitting unused on a desktop for that reason. Cheaper than a company car or a big expense account, the computer-as-status-symbol has caught on in many companies as an executive perk.

## **Tools and Tasks**

So how do we avoid the waste? It's important to understand that each type of computer is a different tool, best suited to a certain range of tasks. Using a Macintosh Plus or an IBM PC XT with a double Bernoulli drive and a high-speed printer to draft memos and do quick spreadsheets is overkill. It works, but why bother?

What are personal computers commonly used for in corporations? Certainly, some machines routinely crank out complex financial projections, handle general ledgers, and perform massive statistical analysis. But most computers are intended



# The Icon Review Showcase

Choose from our Collection of Select Macintosh Products  
All at Fantastic Savings!

All of us at Icon Review are active Mac users. We have hands-on experience with what works and what doesn't. Our highly qualified network of Mac experts help us evaluate specialized products. We believe in the quality and value of these products. We won't sell anything we wouldn't use ourselves!



## Orbiter \$30

From Spectrum Holobyte

Wishing you could board the Space Shuttle? Orbiter puts you in the captain's chair with exciting 3-D graphics and voice synthesis that push space flight simulation to new heights! The authors' research into astronomy and actual NASA procedures give Orbiter even greater realism than GATO, their best-selling submarine simulation game. You'll launch the Space Shuttle on various real-time missions, and watch in amazement while solid objects such as planets and stars change perspective as you fly past. Orbiter's synthesized voice conveys NASA communications critical to your



mission, and responds instantly as you play. The unrelenting action makes this the most involving simulation ever! For everyone who's dreamed of the stars, Orbiter offers the excitement of space flight!

## Macbottom 20 \$1149

From PCPC

This new 20 megabyte Macbottom wins our vote as the most Mac-like personal hard disk. We like it even better than the Apple Hard Disk 20. Macbottom is just as fast, plus it's more compact, more portable, and powers up automatically. The Macbottom has earned our respect for the friendliness of its software, its reliability, and high performance. Software enhancements permit convenient backup to floppies (entire volume, changes only, or selected files) and allow you to quickly mount volumes from a desk accessory. Volumes can be resized. The built-in print spooler saves you time. No installation required—just plug it in to the printer port and go! Warranty is for 6 months parts and labor. We strongly recommend Macbottom. You can trust it to save your data and your time.



## OverVUE 2.0 \$149

From ProVUE

OverVUE 2.0 is our favorite database at Icon Review—and others agree! OverVUE recently won both MACazine Readers' Choice and MacUser Editors' Choice awards for best DataBase. OverVUE is the FASTEST database we've seen, sorting 1,000 records in two seconds! Its outstanding versatility lets



you display your data in many ways. You can look at each record individually on a form, or see as many records as will fit on the screen in a spreadsheet-like format. You can design printed reports easily by dragging fields into position with your mouse. Its most powerful features include macros, built-in charting, and relational joining functions. OverVUE simply offers you the best balance of power and ease-of-use available at any price.

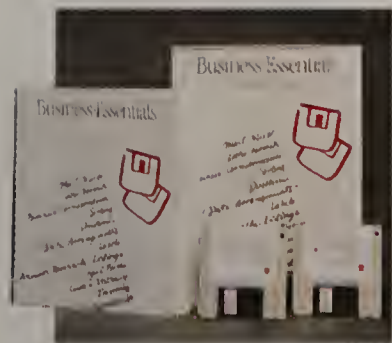
CALL TOLL FREE & GIVE US A CHANCE  
TO MATCH ANY ADVERTISED PRICE

ORDERS 800/228-8910  
IN CALIFORNIA 800/824-8175

Circle 272 on reader service card

Icon  
Review





## Business Essentials \$65

From Assimilation

The ultimate tool for customizing and printing form letters and mailing labels, Business Essentials powerfully integrates a word processor with database manager. You'll quickly print personalized business letters for up to 600 recipients with a single command! Either select a pre-written letter from Business Essentials' library of common business correspondence, or create the skeleton of your own letter in the word processor, indicating where the database should insert information unique for each recipient. You'll be able to increase frequency and quality of written contacts when you use Business Essentials to reduce clerical overhead!

## HARDWARE

Abaton  
**Drive 5.25** *NEW SCALL*  
Lets Mac read ANY IBM compatible format disk, run CP/M programs and more!  
**UNDER \$600!**

AST  
**Ram Stack - .5 meg.** \$599  
**Ram Stack - 1 meg.** *SPECIAL* \$799  
**Ram Stack - 1.5 meg.** \$999  
Additional memory for your Mac XL

Cannon  
**PC20 Personal Copier** *SCALL*  
**PC24 Personal Copier** *SCALL*

Cuesta  
**90 Watt Datasaver** \$299  
**200 Watt Datasaver** \$399  
Protection from power blackouts

GTCO Corporation  
**MacIntizer** \$479

Hayes  
**Smartmodem 1200** *SPECIAL* \$359  
**Smartmodem 2400** *SPECIAL* \$579  
**Smartmodem-to-Mac Cable** \$18  
**1200 Smartmodem, Smartcom & Cable (Bundled)** \$449  
**Transet 1000** *SPECIAL* \$279  
Multi-function buffer and switch—Incredible!  
**Transet 1000 512K** *NEW* \$379  
**Transet Mac Accessory Kit** \$29

Icon Review  
**Memory Upgrade**  
**128K to 512K** \$269  
**512K to 2 Meg** \$659  
**128K to 2 Meg** \$799

Kurta  
**PenMouse+** *NEW SCALL*  
Quality digitizing tablet with cordless stylus

NEC  
**Color PinWriter Printer** *SCALL*  
**Colormate Kit** *SCALL*

New Image Tech  
**Magic Video Digitizer** \$259  
The best!

Prometheus  
**ProModem 1200 M** \$339  
All options available — call!



## Dasch

From Western Automation Labs

Dasch adds as much as two megabytes of external RAM-disk to your Mac. Access data seven times faster than floppies or load MacPaint in 4.3 seconds! Unlike other RAMdisks partitioned in system memory, data stored in your Dasch is invulnerable to system crashes. Dasch comes with controlling software that features autoload on startup, backup utilities, and print spooling via its serial port for the ImageWriter. Dasch radically speeds up all launch, quit, and save options—saving you time.

**500K** \$399  
**1000K** \$699  
**2000K** \$849

Systems Control  
**Mac Gard** \$55  
Protect your Mac from power surges

Thunderware  
**Thunderscan** \$175

Western Automation Labs  
**Dasch**  
**500K External RAM Disk** \$399  
**1000K External RAM Disk** \$699  
**2000K External RAM Disk** \$849

## DISK DRIVES

Mirror Technologies  
**800K Internal Drive Upgrade Kit** \$299  
**Magnum External 800K Drive** \$375

Paradise Systems  
**Mac 10** *SPECIAL* \$799  
**Mac 20 NEW!** \$1049

PCPC  
**Macbottom 20 Megabyte** \$1149  
Most Mac-like personal hard drive

Tecmar  
**MacDrive—10 Megabyte** *SPECIAL* \$669

## ACCESSORIES

Assimilation  
**Mac Daisy Wheel Connection** *SPECIAL* \$69  
**Mac Port Adapter** *SPECIAL* \$59  
**Mac Turbo Touch** \$95  
Replace your mouse with this trackball  
**Numeric Turbo** \$129  
Trackball with numeric keypad

Bech Tech  
**Fanny Mac** *SPECIAL* \$79  
Fan fits in Mac's handle  
**Facts of Mac Posters (2)** \$17  
Mac schematics chart

Computer Friends  
**MacInker** *SPECIAL* \$55  
Save \$\$ by re-inking ribbons—includes ink!

Eichner  
**Disk Holder** \$25  
**Disk Holder with Lock** \$33

Ergotron  
**Mac Tilt** \$79  
Swivel stand for Mac & 2nd drive

Icon Review  
**Head Cleaner** \$19  
**Mac Cracker** *SPECIAL* \$20  
Combination long handle Torx screwdriver and cover pry tool



## Rags to Riches

From Chang Labs

Rags to Riches brings Macintosh style to the accounting process. MACazine voted it the Best Accounting Package of 1985! Rags to Riches makes accounting procedures easier by adhering to the standard Macintosh user interface, and speeds operations by keeping them in RAM. Rags to Riches modules work smoothly together, and their innovative use of windows establishes an easy-to-understand hierarchy of information. Each module supports up to 5,000 accounts/10,000 transactions. And now a new Inventory module is available! Chang Labs provides excellent documentation and support for this time-proven, best-selling product. Automate your books with style and confidence with Rags to Riches!

**Gen Ledger** \$105  
**Acct's Pay** \$105  
**Acct's Rec** \$105  
**3 Pack (All the above)** \$249  
**Inventory** *NEW* \$105

Innovative Technologies  
**The Easel** \$14  
Cloth case carries and displays disks  
**Pocket Pack** \$9

Kensington  
**Control Center** \$65  
**Printer Stand** \$19  
**Surge Suppressor** \$34

Kette Group  
**MacNifty**  
**A-B Switch** \$27  
**A-B-C-D Switch** \$45  
**MacNifty Stereo System** \$69  
Great sound for the Mac—includes speakers

Koala Technology  
**Mac Vision** \$175  
Puts images from your video camera into Mac

Micro Store  
**Disk Book** \$27  
High quality, notebook-sized carrier

Mountain Equipment, Inc.  
**Mac Carrying Case** \$79  
The Best! Heavy duty and stylish  
**ImageWriter Carrying Case** \$59

Mouse Systems  
**A+ Mouse (optical)** *SPECIAL* \$57  
Mousetrak  
**MousePad** *SPECIAL* \$8

Ring King  
**Sound-Write™** \$99  
Acoustical cover for Imagewriter

Leatherware  
**Disk Wallet** *SPECIAL* \$29  
Packs 6 disks in your jacket pocket—in fine leather, executive style!

## DISKETTES

**Sony 3 1/2" (10)** *SPECIAL* \$22  
The Best!  
**Sony 3 1/2" (10) DS/DD** \$36

# Icon Review

OPEN  
MONDAY THRU SATURDAY  
8 A.M. to 6 P.M. (Pacific Time)

ORDERS ONLY 800/228-8910  
CALIFORNIA 800/824-8175

CUSTOMER SERVICE 408/625-0465  
TECHNICAL SUPPORT 408/625-2158  
NATIONAL ACCOUNTS 408/625-1957

## ORDERING IS EASY!

Icon Review is dedicated to supplying top-rated software, same-day service, and discounted prices. Call toll-free, or order by mail.

MAIL ORDERS TO  
ICON REVIEW P.O. Box 2566, Monterey, Ca 93942

## OUR NATIONAL ACCOUNTS PROGRAM IS MADE TO ORDER.

Call today to find out how our National Accounts Program gives organizations like yours the benefit of Icon Review's unique brand of service and support. For more information call Brett LaSorella at 408/625-1957.

## OUR POLICIES

■ We accept MasterCard and VISA with no added service charge. Your card will not be charged until we ship. Private and company checks accepted; for faster delivery send certified or cashiers check, or money order.

■ No C.O.D.'s.

■ We accept corporate or school purchase orders from qualified institutions. Call 408/625-1957 for details.

■ California residents add 6% sales tax.

■ All goods are new and guaranteed to work, but we do not guarantee machine compatibility. Due to software copyright laws, all sales are final. Defective products replaced immediately; call for a Return Authorization Number, 408/625-1931.

■ We ship same day on most orders.

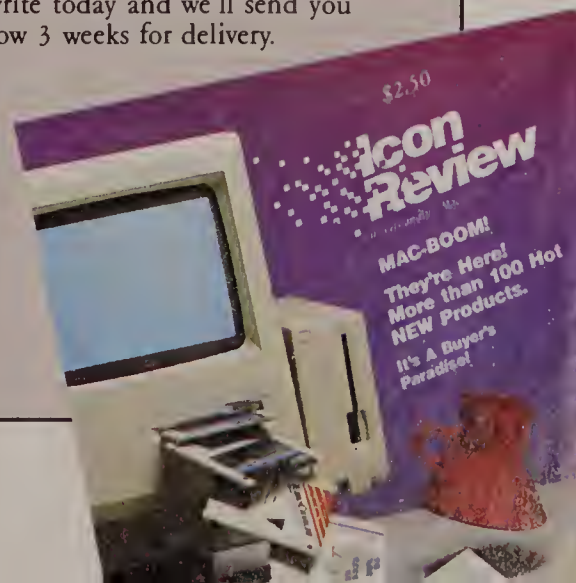
Save time or save money. For ECONOMY, we ship via UPS Ground. \$2 minimum. Allow 2 weeks for delivery. We recommend EXPRESS, our standard shipping method via Federal Express Standard Air, \$6 minimum. NEXT DAY service is also available via Federal Express Priority One. \$25 minimum. SPECIAL SHIPPING: Alaska and Hawaii: Add 4% (\$6 min.). Canada: Add 12% (\$15 min.). FOREIGN ORDERS add 18% (\$25 min.). All payments in U.S. dollars only.

PRICES AND AVAILABILITY SUBJECT TO CHANGE  
WITHOUT NOTICE

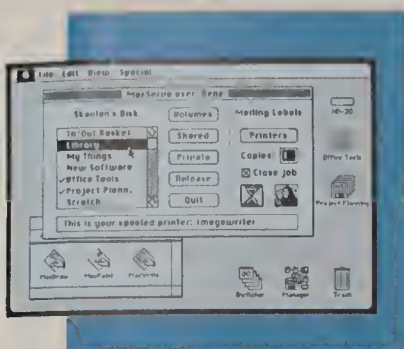
Macintosh is a trademark licensed to Apple Computer, Inc. • Icon Review is a division of MindWork Enterprises, Inc. • MindWork and Icon Review are Trademarks of MindWork Enterprises, Inc. • Icon Review, Published by MindWork Enterprises, Inc. 6750 Mid Valley Center, Carmel, CA 93923. • © 1985 MindWork enterprises, Inc.

## MAKE INFORMED DECISIONS

Our catalog contains more than 100 product reviews. Call or write today and we'll send you a copy FREE. Allow 3 weeks for delivery.







## MacServe \$199

From Infosphere

MacServe is an operating system software enhancement that adds exciting new features to any AppleTalk network. Now any of the leading hard disks can act as a disk server, allowing all network users to share its volumes. MacServe can partition a hard disk into volumes, even an Apple HD 20! With MacServe, different volumes on the same hard disk can work under either Apple's new HFS or the old file system, thus preventing software compatibility problems. MacServe offers each network user password protection, incremental backup, and access to multiple printers. The print spooler queues up multiple jobs, saving you time. Let MacServe unleash the full potential of your AppleTalk network today!



## Mac Spell Right \$69

From Assimilation

The only spelling checker that works within MacWrite has been updated to perform better than ever! Unlike other spelling checkers that work as desk accessories or separate applications, Mac Spell Right simply adds a new menu, Spell, to the MacWrite menu bar. This makes it our choice as the easiest-to-use spelling checker available on the market today. Its new features make it even more powerful—a new spelling algorithm and Auto Find Next option make the checking process much faster. A new, separate Spell Edit application makes it easy to add, delete, replace, and save from one dictionary to another. Put the power of a 40,000-word Webster's Dictionary and a 15,000-word Roget's Thesaurus into your copy of MacWrite with Mac Spell Right! Requires MacWrite Version 4.5

PRICE  
REDUCTIONS  
DAILY



## ClickArt Effects \$29

From T-Maker Graphics

ClickArt Effects works within MacPaint to add exciting new tools! With ClickArt Effects you can rotate an image to any angle, not just 90°! It also lets you add perspective through a vanishing point, slant images, or use a distortion box to create the perception of a twist. Easy to install and use, the ClickArt Effects enhancement is a must for every MacPaint artist!



## Fluent Fonts \$29

From Casady Company

Fluent Fonts is the best value in fonts for the Macintosh. Add variety to your Font menu with 48 different typestyles, covering a variety of languages and technical symbols. Large graphic fonts cover a stylistic range, from modern to medieval, suitable for newsletters, announcements, and graphic arts. You can also word process in Greek, Russian, Czech, Polish, Slovak, Ukrainian, Turkish, French, Spanish, German, Italian, and other languages, while you combine them in the same document with math, astronomy, biology, chemistry, meteorology, and electronic symbols. Don't miss this great graphic opportunity!

## Factfinder \$83

From Forethought

Factfinder is one of our favorite, indispensable tools. Unlike database programs, Factfinder is designed to store and organize text, notes, and other free-form information that might otherwise clutter your desk with scraps of paper. While taking notes, for example, you simply type a note into a factsheet, name the factsheet, select the keywords by which you will retrieve it, and save it to disk. Later Factfinder can sort through all your note factsheets and retrieve them individually by name, keyword, or date created or modified. Factfinder is a must for every researcher, writer, student, teacher, and professional.



## PRODUCTIVITY

Assimilation	
<b>Business Essentials</b>	\$65
<b>MIDI Conductor</b>	\$75
<b>MIDI Composer</b>	\$22
B. Knick Drafting	
<b>MacPerspective</b>	<i>SPECIAL</i> \$119
Time-saving tool for draftsmen	
Blythe Software	
<b>Omnis 3</b>	<i>SPECIAL</i> \$249
Most powerful database manager	
Borland	
<b>SideKick</b>	\$45
Desk/phone/schedule organizer extraordinaire!	
BrainPower	
<b>Power Math</b>	<i>SPECIAL</i> \$52
Powerful symbolic equation solver	
<b>StatView</b>	<i>SPECIAL</i> \$99
Excellent stat package—strong recoding and case selection	
Brainstorm	
<b>Overture</b>	\$89
Camde Corp	
<b>Nutri-Calc</b>	\$57
Challenger Software	
<b>Mac 3D</b>	<i>NEW</i> \$129
Creighton Development	
<b>MacSpell+</b>	<i>SPECIAL</i> \$55
Desk Accessory with 75,000+ words, thesaurus, and hyphenation.	
Cricket Software	
<b>StatWorks</b>	\$79
Great value with best statistical graphs	
<b>Cricket Graph</b>	<i>NEW</i> \$139
Data Food	
<b>Draw Forms</b>	\$30
Requires MacDraw	
<b>Mac Forms</b>	\$42
Requires MacPaint	
DataPak Software	
<b>My Office</b>	\$95
Super graphic office on a disk!	
<b>Executive Office</b>	\$299
<i>NEW! Extra power for the professional</i>	

Dow Jones	
<b>Spreadsheet Link</b>	<i>SPECIAL</i> \$57
Download from electronic data services	
Enabling Technologies	
<b>Easy 3D</b>	<i>NEW</i> \$79
Electronic Arts	
<b>Financial Cookbook</b>	<i>SPECIAL</i> \$32
Answers your financial planning questions	
EnterSet	
<b>Quick Paint</b>	<i>SPECIAL</i> \$29
Browse, cut and paste MacPaint files from Desk Accessory.	
<b>Quick Word</b>	<i>SPECIAL</i> \$36
Insert boilerplate instantly!	
Execucom	
<b>Mindsight</b>	<i>NEW</i> \$139
Business Planning and Decision Analysis	
Forethought	
<b>Factfinder 1.1</b>	<i>SPECIAL</i> \$83
Essential — Freeform DB for notes	
<b>FileMaker</b>	<i>SPECIAL</i> \$109
Our favorite forms-oriented database	
Harris Technical Systems	
<b>Profit Projections/Break-even Analysis</b>	\$49
Quick analysis and graphs easier than spreadsheets	
Hayden Software	
<b>Art Grabber</b>	<i>SPECIAL</i> \$29
I Know It's Here Somewhere	\$34
Easy to use personal filer	
<b>VideoWorks</b>	\$58
Astonishing visual effects!	
Innovative Data Design	
<b>MacDraft</b>	<i>SPECIAL</i> \$139
Most powerful drafting tool for the Mac	
Layered	
<b>Jazz Notes</b>	<i>NEW</i> \$59
<b>Excel Notes</b>	<i>NEW</i> \$59
Living Videotext	
<b>ThinkTank 128</b>	\$75
<b>ThinkTank 512</b>	\$121
Magnum Software	
<b>Slide Show Magician</b>	\$39

Mark Of The Unicorn	
<b>Professional Composer</b>	\$259
Micro Planning Software	
<b>MicroPlanner Plus</b>	\$299
Enhanced version, requires 512K	
<b>Micro Planner</b>	\$199
Sophisticated project management and scheduling	
Microsoft	
<b>Chart</b>	\$75
<b>Excel</b>	\$229
<b>File</b>	<i>SPECIAL</i> \$112
<b>Multiplan</b>	\$107
<b>Word</b>	<i>SPECIAL</i> \$112
Model Office Company	
<b>Document Compare</b>	<i>NEW</i> \$270
Monogram	
<b>Dollars &amp; Sense</b>	\$82
<b>ForeCast</b>	\$45
Tax Planning - Works with Dollars & Sense	
Odesta	
<b>Helix 2.0</b>	\$229
Faster, enhanced	
Opcode	
<b>MidiMac Interface</b>	\$99
<b>MidiMac Sequencer</b>	\$119
<b>MidiMac Patch Librarian</b>	\$39
<b>MidiMac Patch Editor</b>	\$75
for DX/TX	
Organizational Development Software	
<b>Consultant</b>	<i>SPECIAL</i> \$129
Helps develop strategies, solve problems	
Professional Bibliographics	
<b>Professional Bibliographic System</b>	\$239
Simplifies creating/maintaining properly formatted bibliographies	
ProVUE	
<b>OverVUE 2.0</b>	\$149
Best balance of power and ease-of-use in databases.	
Real Data, Inc.	
<b>Financial Analysis</b>	<i>SPECIAL</i> \$59
<b>Real Estate Investment Analysis</b>	<i>SPECIAL</i> \$89
<b>Residential Real Estate</b>	\$59
Templates for Multiplan or Jazz	

Rubicon	
<b>Dinner at Eight</b>	<i>NEW</i> \$45
Satori Software	
<b>Bulk Mailer</b>	<i>SPECIAL</i> \$79
Fully professional list management	
Silicon Beach Software	
<b>Accessory Pak #1</b>	\$24
Cut and paste whole MacPaint pages and more!	
Simon & Schuster	
<b>Mac Art Department</b>	<i>SPECIAL</i> \$24
Tells how to use graphics effectively, includes great clip art	
Softstyle	
<b>Decision Map</b>	<i>SPECIAL</i> \$89
Innovative decision support and modeling.	
State-Of-The-Art	
<b>Electric Checkbook</b>	\$45
Telos	
<b>Business Filevision</b>	<i>NEW</i> \$299
T/Maker	
<b>ClickOn Worksheet</b>	<i>SPECIAL</i> \$47
Desk Accessory—Great for casual spreadsheet use	
<b>Click Art Effects</b>	<i>SPECIAL</i> \$29
Add tools to MacPaint	
<b>Click Art Letters</b>	<i>SPECIAL</i> \$31
<b>Click Art Personal Graphics</b>	\$31

## ACCOUNTING

Chang Labs	
<b>Rags To Riches</b>	
• Acct's Rec.	<i>SPECIAL</i> \$105
• Acct's Pay.	<i>SPECIAL</i> \$105
• Gen. Ledger	<i>SPECIAL</i> \$105
□ 3 Modules	<i>SPECIAL</i> \$249
(All the above)	
• Inventory	<i>SPECIAL</i> \$105
Micromax	
<b>Gallery Finance</b>	\$169
Special Edition includes Cash Disbursement, GL, and either AR or AP.	
Peachtree	
<b>Back to Basics</b>	
• Gen. Ledger	<i>SPECIAL</i> \$89

• Accounts Receivable	<i>NEW</i> \$89
• Accounts Payable	<i>NEW</i> \$89
Sierra Information Systems	
<b>Accountants Choice</b>	
• Gen. Ledger	\$259
• Acct's Pay.	\$259
• System Manager	\$59
• Demos (ea.)	\$15
Professional small business accounting — Hard disk required	

## COMMUNICATIONS

Compuserve	
<b>Starter Kit</b>	\$19
Hayes	
<b>Smartcom II</b>	<i>SPECIAL</i> \$89

## EDUCATION

Brainpower	
<b>Chipwits</b>	\$29
<b>Think Fast</b>	\$29
Davidson & Associates	
<b>Speed Reader II</b>	\$49
<b>Math Blaster</b>	\$39
Electronic Arts	
<b>Music Construction Set (Deluxe)</b>	<i>SPECIAL</i> \$32
First Byte	
<b>Speller Bee</b>	<i>SPECIAL</i> \$48
Great Wave	
<b>Concertware+</b>	\$39
An education in music	
<b>Concertware+ MIDI</b>	\$CALL
Hayden Software	
<b>Sargon III</b>	<i>SPECIAL</i> \$27
<b>Turbo Turtle</b>	\$36
Mindscape	
<b>SAT</b>	<i>NEW</i> \$49
QED Information Sciences	
<b>Typing Made Easy</b>	\$35
Rubicon	
<b>Songpainter</b>	\$37





## Battery Pak \$29

From Batteries Included

Battery Pak makes your Mac's Apple menu a powerful place! Install one or all of its eight desk accessories for just the features you need. With The Disk Utility (Trash File, Copy File, Get Info and more), and the application Launcher, you may never use the Finder again! A triple-click on a phone number in the full-featured Calendar or Phone Pad alerts your modem to autodial the number. You can archive Calendar entries to MacWrite files too! Two RPN calculators, a Window selection utility, and a Print Spooler are also included. Energize your menu today with Battery Pak!

Think Educational Software

**Mac Edge II** \$39  
**Mind over Mac** \$39

## UTILITIES

Adobe  
**Laser Fonts** \$CALL

Affinity MicroSystems  
**Tempo** *SPECIAL* \$79  
*Powerful macros with logic branching*

Altsys Corp.  
**Fontastic Font Editor** \$25  
*Make your own fonts*

Assimilation  
**Guardian** \$22  
*File encryptor*

**Mac Memory Disk** \$22  
**Mac Spell Right** \$69  
**Mac Tracks** \$22  
**Right Word** *NEW* \$69  
**Work N'Print** \$22

*Print spooling software*

Batteries Included  
**Battery Pak** *SPECIAL* \$29  
*8 helpful desk accessories*

Casady Company  
**Fluent Fonts** *SPECIAL* \$29

Central Point Software  
**Copy II Mac** *SPECIAL* \$20  
*Includes Hard Disk install*

DataViz  
**MacLink W/8' Cable** \$109  
*Transfers and converts files between Mac and IBM*

Druid  
**Classic Fonts** \$35  
*For Laser Writer*

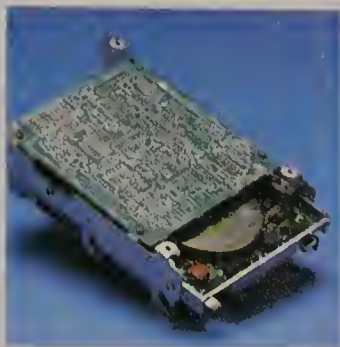
Dubl-Click Software  
**Calculator Construction Set** \$69

Dreams of the Phoenix  
**12C Financial Calculator D.A.** \$29  
**Quick and Dirty Utilities** \$29

FWB Software  
**Hard Disk Utility** *SPECIAL* \$59  
*Copies protected software to your hard disk*

Ideaform  
**MacLabeler** *SPECIAL* \$29  
*Enhanced version!*

Infosphere  
**MacServe** \$199  
**XL Serve** *SPECIAL* \$99  
*Partitions Mac XL hard disk, network disk server, print spooler & more!*



## 800K Internal Drive Upgrade Kit

From Mirror Technologies

Double your floppy storage and access data 50% faster by replacing your Mac's internal drive with this 800K Drive Upgrade Kit from Mirror Technologies! This kit includes full instructions for opening your Mac and swapping drives—a twenty minute job. The drive reads and writes both double-sided and single-sided disks, is compatible with all current Macintosh software, and carries a 90 day warranty. For those who want more storage and improved performance without opening their Macs, we offer the Sony Mirror Magnum 800K drive in an external case.

Double your Mac's floppy storage speed and capacity with a Mirror double-sided drive today!

**800K Internal Drive Upgrade Kit** \$299  
**Mirror Magnum 800K External Drive** \$375

Johnson Greene, Inc.  
**Spellswell** *NEW* \$39  
*New spelling checker catches capitalization & homonym errors too*

Kensington  
**Professional Type Fonts** \$29  
**Professional Type Fonts (512K) Headlines** \$42

Mesa Graphics  
**Plot-It** \$79  
*Plotter drivers for Mac*



## MacLabeler \$29

From Ideaform

Can you neatly write the name of every disk file on the required 2½" square label? MacLabeler can! It churns out tidy printed labels that show the contents of each diskette at a glance! First a directory window lists all files and folders on the diskette. You can sort them by name, type size, or date. Alter or add what you want, then MacLabeler prints diskette labels on the die-cut, pin-feed labeling material included in the package. Get MacLabeler to organize your disk library today!

Micro Analyst  
**MacZap** \$39  
*Hacker's back-up utility and more!*

Micro Spot  
**Mac Plot** \$139  
*Plotter drivers for Mac*

Nevins Microsystems  
**TurboCharger** *SPECIAL* \$55  
*Disk Cache — speeds operation*

New Caanan MicroCode  
**Mac Disk Catalog** *SPECIAL* \$29  
*Organizes your disk library*  
**Mac Disk Catalog II** *NEW* \$39  
*Enhanced version requires 512K*

## LANGUAGES

Microsoft  
**Basic** \$89  
**Logo** \$75

TMQ Software  
**TMON Debugger** \$89  
*Better than ROM debugger*



## Fanny Mac \$79

From Beck-Tech

People hate fans because of the noise, even though they know cooled computers experience fewer component failures. We've found Fanny Mac to be the quiet, elegant way to boost the ventilation in your Mac. *Quiet* because of its quality ball bearing fan. *Elegant* because of its design—it fits neatly, almost invisibly into your Mac's handle! Its "pass through" power assembly means you'll need only one power socket for both your Mac and Fanny Mac. And surge suppression for your Mac is built right in! Keep your Mac running cool while maintaining peace and quiet with Fanny Mac!

## GAMES

Ann Arbor Softworks  
**Grid Wars** \$29  
*3D shoot'em up!*

**Lunar Explorer** \$39

Blue Chip Software  
**Baron** \$37

**Millionaire** \$37

**Tycoon** \$37

**Squire** \$39

Broderbund  
**Ancient Art of War** \$CALL  
*Knights, Archers, Cowboys, Indians and More!*

Electronic Arts  
**Pinball Construction Set** \$29

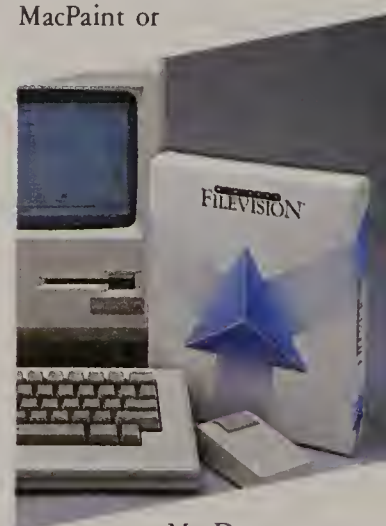
Hayden  
**Computer Novel Construction Set** *NEW* \$29

Infocom  
**Cuthroats** *NEW* \$24

## Business Filevision \$299

From Telos

Giving you a powerful visual access to database information, Business Filevision is a quantum leap ahead of Filevision, its award-winning predecessor. New "Pop-ups" let you access hidden information; for example, clicking on a picture of a house in a town map causes a window containing the house's floor plan and a database of its statistics to pop up on the screen. With improved drawing tools, powerful new database management capabilities, and polished report generation, Business Filevision has more than enough muscle for sophisticated professional applications. Illustrations created in MacPaint or



MacDraw can be pasted into Business Filevision, broadening your sources for graphic data. Let Business Filevision show you your data as you've never seen it before!

**Deadline** *NEW* \$29  
**Hitchiker's Guide To The Galaxy** \$25  
**Sorcerer** *NEW* \$27  
**Starcross** *NEW* \$29  
**Wishbringer** *NEW* \$24  
**Zork III** *NEW* \$27

Miles  
**Harrier** \$29

Mindscape  
**Balance of Power** \$30  
*Match wits with the U.S.S.R. and prevent nuclear war!*

**Deja Vu** \$39  
**Racter** *NEW* \$27

PBI  
**Fokker Triplane** *SPECIAL* \$38  
*Hot acrobatic flight simulator!*

**Strategic Conquest** *NEW* \$33  
*War games for Mac sporting 2 billion planet configurations*

Psion  
**Psion Chess** *NEW* \$CALL

Silicon Beach Software  
**Airborne** \$21

Simon & Schuster  
**Paper Airplane Construction Kit** \$23

Southern Software  
**Macinooga Choo Choo** *NEW* \$29

Spectrum Holobyte  
**Gato** \$25

**Submarine simulation**  
**Orbiter** *SPECIAL* \$30  
*Space Shuttle simulator*

**TOLL FREE**

**ORDERS**  
**800/228-8910**

**CALIFORNIA**  
**800/824-8175**

Supply limited!



## Mac Drive \$669

From Tecmar

*Super Value 10 Meg Drives at Floppy Drive Prices!*

You've seen this 10 megabyte hard disk retail for \$1995, or listed by our competitors for \$1099, but through an exclusive arrangement with Tecmar, Icon Review is offering you the MacDrive at the incredibly low price of \$669! Includes all the cables you need so you can install it yourself in just 10 minutes! The MacDrive gives you print spooling and an extra serial port. Works with Appletalk and the LaserWriter. This drive includes all new 2.2 software that's compatible with the current 4.1 system software. Supports up to 20 volume partitions, and backs up to and restores from floppies. Full warranty provides access to future enhancements.

BUY FROM OUR NATIONAL ACCOUNT PROGRAM!

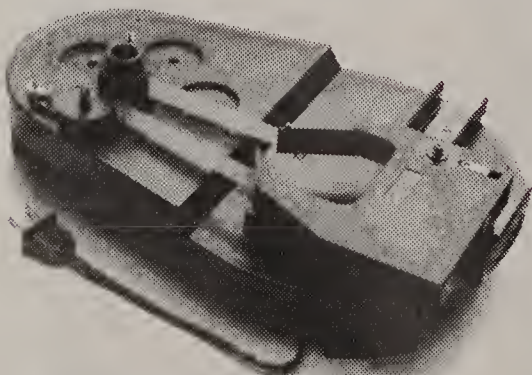


# The Universal MacInker(s)<sup>TM</sup> are here

Re-ink any Fabric  
ribbon automatically  
for less than

5¢

Now one **Universal Cartridge MacInker (UC)** re-inks all fabric cartridges and one **Universal Spool MacInker (US)** re-inks all spools. We have **MacInker(s)** dedicated to specialized cartridges, zip pack, harmonica etc. Over 1000 printer brands supported. Use your **MacInker** to re-ink your dry, fabric cartridges (for less than 5 cents in ink) and watch the improvement in print-out quality. Our new, residue-less, lubricated, dot matrix ink yields a darker print than most new ribbons. Or get any of our basic ink colors: brown, blue, red, green, yellow, purple and use **MacInker** to create and/or Re-ink your own colored cartridges. We have uninked or colored cartridges for the popular printers and ribbon re-loads for any printer. Operation is extremely simple & automatic with new, twin drive electric motor that supports CW and CCW rotating cartridges. A good quality fabric ribbon of average length can be re-inked almost indefinitely. In our tests one re-inked Epson\* 80 ribbon has outlived the estimated life of the print-head!! We receive consistent & similar feedback from our customers. As of August 85 we have over 40,000 MAC INKER(s) in the field, in 5 continents (220 V motors available). **MacInker (UC) is \$60.00.** Cartridge drivers are **\$8.50/ea.** We still have our first generation, dedicated **MacInker(s)** for most popular printers. Prices start at **\$54.95** with most units below \$60.00. **MacInker** has been reviewed, approved and flattered in most magazines and even in the NEW YORK TIMES and the CHICAGO SUN TIMES.



## Computer Friends

6415 S.W. Canyon Ct.  
Portland, OR 97221  
(503) 297-2321

Order toll free 1-800-547-3303  
or ask for free detailed brochure.  
Dealers inquiries welcome.

\*EPSON is a trademark of EPSON CORP.

## Notepad

(continued from page 31)

to take the drudgery out of small and medium-sized routine tasks: producing memos, performance summaries, and charts. A moderate-sized (128K to 512K) machine with intelligently chosen software and an appropriately sized (5 to 10 megabyte) hard disk drive can handle these tasks beautifully, without intimidating the user. Such a system takes up less space and costs much less than the typical corporate behemoth. Because the smaller machines are easier to use, they are likely to be used more often and more effectively—thus offering a superior value to the corporate purchaser.

Moderate-sized machines and the software that runs on them have limits, of course, and some users will outgrow them. Approximately 10 percent of corporate users either start at or evolve to the point at which they routinely need every ounce of power available; another 10 percent either need such power occasionally or find it lets software such as spreadsheets and word processors run more efficiently.

### Personal Computer Pluralism

MIS departments do need standards to avoid building a crazy-quilt inventory of equipment that is impossible to purchase or service efficiently. Problems are easier and less expensive to solve with standard solutions. But since a single, companywide standard can give too much bang for too many bucks, multiple standards may be the answer. A set of system standards can be designed to give users only the power they need and provide room within each standard for moderate expansion. Pathways between system standards need to be developed so that data can be interchanged.

These standards might begin with a compact 128K machine or a laptop portable for applications involving small to moderate amounts of data. A busy executive, for example, could use this entry-level system to keep a schedule, organize expenses, draft short memos, and do top-level numeric analysis or forecasting.

To handle the broad middle ground that includes most "information workers," a 256K to 512K machine, preferably transportable, is a solid choice. Such a machine offers the performance and runs the software to handle everyday chores efficiently and at a reasonable cost. I have found the 512K Macintosh, among others, to perform admirably in this arena; its small size, ease of use, and data flexibility make it a real

workhorse, especially when equipped with powerful multipurpose software like *Microsoft Excel* or Lotus's *Jazz*.

For those who need to deal with huge amounts of data, there is the behemoth with high-speed processors, RAM in herds, multiple mass storage, and sophisticated peripherals. Applying a set of multiple standards leads to a balanced mix of equipment that costs less and better serves various kinds of corporate users.

### Corporate Reeducation

Even with broader standards from MIS departments, the status-symbol issue remains. Executives who got a personal computer for its flash, or who are embarrassed to admit that they don't use or understand it, are unlikely to trade in that perk for a simpler system. And it can be difficult to turn down an executive request for a souped-up computer.

The only possible approach is to change corporate culture through education. Corporate reacculturation involves redefining the personal computer as a business tool that should be carefully matched to the job, emphasizing compactness and ease of use as executive virtues, and carefully explaining the rationale for multiple standards. Sooner or later, of course, computers will become old hat as newer gadgets capture the fancy of the status seekers.

I realize that changing the corporate mind is not easy. Apple Computer, despite the superb usability of the Macintosh, has been only moderately successful with corporate sales. On a personal level I can get folks to agree that most personal computers are vastly overpowered, but I've had little success in gaining a consensus for multiple standards—including any standards that would involve the Macintosh in significant numbers.

But I am confident that as more people learn that computer overkill is unproductive, preferences will shift toward simpler machines, just as Detroit finally realized that gas-guzzling engines weren't the answer to modern needs. As dedicated Macintosh users, we can take comfort in having seen the light early.

*Charles H. Gajeway is a writer and MIS consultant based near Danbury, Connecticut. □*



# Drive 16 Macs 50 Times Harder

## The MagNet™ 20 Meg MultiUser Internal Hard Drive

### The MagNet 20™ Hard Drive

Mirror Technologies introduces one of the most powerful Macintosh hard drives available. The MagNet 20 combines great value, expandability, speed and portability to give your Mac amazing capabilities.



### This Internal Hard Drive Is Fast And Portable

Mirror Technologies has teamed up with Infosphere, to develop a special version of MacServe™ (XL-Serve, the predecessor of MacServe, is the **most** popular AppleTalk™ network software in the world!) MacServe software adds all of the capabilities and features of the best Mac hard drives available today, plus the ability to share peripherals, programs and data with multiple computers. As your needs grow the MagNet 20 already contains the power and versatility to handle your computing to go.

### Packed With Features

The MagNet 20 allows you to print spool, disk cache, protect files with passwords, partition volumes and fully or incrementally backup your data. The MagNet 20 is the most powerful single or multiuser storage solution available today.

### Rugged Design

The MagNet 20 uses a hard drive specially designed to withstand treatment that would “crash” the competition. The patented drive head lifter in the MagNet 20 pulls the read/write heads away from your precious data upon power off. This means you and your Mac can travel with confidence.

### The Powerful Single User Solution

Purchase the MagNet 20 as a **very** powerful single user drive and simply add the inexpensive AppleTalk network cables to allow multiple Macs to access shared programs, data and peripherals!



### Multiuser Capability at a Single User Price

Stop waiting: call 1-800-328-6795 ext. 428 for the Mirror Technologies dealer nearest you.

Drive 16 Macs 50 times harder.

**MIRROR TECHNOLOGIES** Inc.  
**WIBBOB TECHNOLOGIES**

2209 Phelps Road  
Hugo, Minnesota 55038

Apple and Macintosh are registered trademarks of Apple Computer, Inc. / MagNet 20 is a registered trademark of Mirror Technologies Inc.

Circle 406 on reader service card



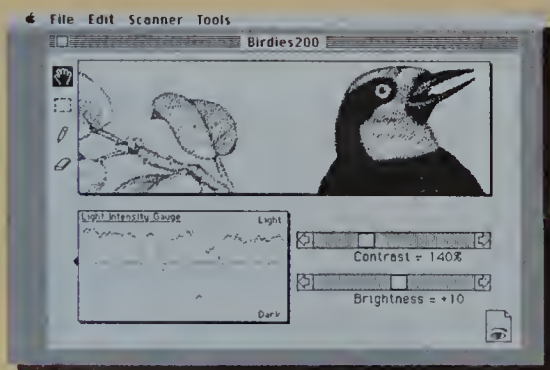


# Hertzfeld on ThunderScan™

After three years on the Macintosh development team, Andy Hertzfeld began to work on the software for an easy-to-use, low-cost way to put images into Macintosh. The result: ThunderScan™. The high-resolution optical scanning device that turns the ImageWriter printer into an image reader. Recently, Andy shared some thoughts on the product he's dubbed, "MacPaint for the rest of us."

**"...I was incredibly thrilled. I knew it would blow people's minds."**

"I spent over three years developing Macintosh's operating system. I care a lot about Mac and wanted people to be able to use it to its full potential. But how do you get images into the machine? Most people can't draw. That's why I got involved with ThunderScan. To give people, especially non-technical users, an easy, low-cost way to get high-resolution images into Macintosh. When I first saw how beautiful ThunderScanned images were, I was incredibly thrilled! I knew it would blow people's minds."



ThunderScan's image processing tools let you enlarge, reduce, cut, paste, select, draw, scroll and erase, as well as control contrast, brightness and half-toning.

**"You get to make artistic decisions. To change and improve what you see."**

"Macintosh inspires creativity. ThunderScan is a vehicle for its expression. It lets you put any printed image into Mac. But you're never stuck with the image as is. You get to make artistic decisions. To change and improve what you see. You can control the contrast, brightness and half-toning. Over all or



A scanned image is just the start. Now you have micro-control over 32 shades of gray to enhance all or part of the image as you please.

just parts of the image. Even create reverse images and outlines. It's really fun. But the great thing is, when the novelty wears off, you have a useful tool.

"ThunderScan has a whole range of applications. Some people use it for inserting graphics into newsletters and reports. I know a fine artist at Stanford who makes collages with it. I use it a lot, too. The way I write a program is an expression of who I am, so in my new "Switcher" program, I included a ThunderScanned image of myself."

**"...With LaserWriter you can create unbelievably exquisite images."**

"We now have an enhanced version (available as a software upgrade for current users) that has some neat new features. It supports AppleTalk, the wide-carriage ImageWriter and LaserWriter. The output resolution of LaserWriter and ThunderScan's input resolution are a perfect match. So with

LaserWriter you can create unbelievably exquisite images.

"ThunderScan is a complete imaging system. You don't have to buy anything else. You just snap out ImageWriter's ribbon cartridge and snap in ThunderScan. It fits in any office or home environment, takes up no space and the lighting is always perfect.

"Developing ThunderScan was a lot like developing Macintosh. We were doing something for the first time. Making an important tool. We think we did a good job."

ThunderScan requires 128K. But to take full advantage of all its features, you'll need a 512K Mac.

Available now through computer retail stores or directly from Thunderware for just \$229. To order or for more information, call today (415) 254-6581. Thunderware®, Inc., 21 Orinda Way, Orinda, CA 94563.



ThunderScan

Circle 167 on reader service card



# Letters

*Readers write of dreams unfulfilled, blue sky, piracy, product reviews, and more*

## A Word from the Weary

I am getting sick and tired of all the hoopla for spreadsheet and database programs. How many people really want another *Jazz* or *Excel*—or have that much use for them? What most Macintosh users really need are more and better word processing programs to choose from. There are scores of word processing programs for the IBM PC—why not for the Macintosh? After all, people—even businesspeople—use computers more for writing than for anything else.

A need also exists for peripheral word processing programs such as decent spelling checkers, indexing programs, style sheets, bibliography programs, and programs that prepare tables of contents. I encourage software developers to stop duplicating each other's efforts with number crunchers and move into filling this atrocious void, where surely a big payoff awaits.

*Edwin Bernbaum  
Berkeley, California*

## Driven to Piracy

Software piracy is a practice I have scorned since the purchase of my first computer, a Macintosh. However, now that I have owned a number of programs long enough to experience some troubles with warranties and software manufacturers' customer service, my opinion regarding piracy is changing.

As an original purchaser of software, I am buying more than just a magnetic disk coded with bits of essential data. Implicit in any "right to use" purchase is the "right to know how to use" and the "right to continue to use." I expect backup in the form

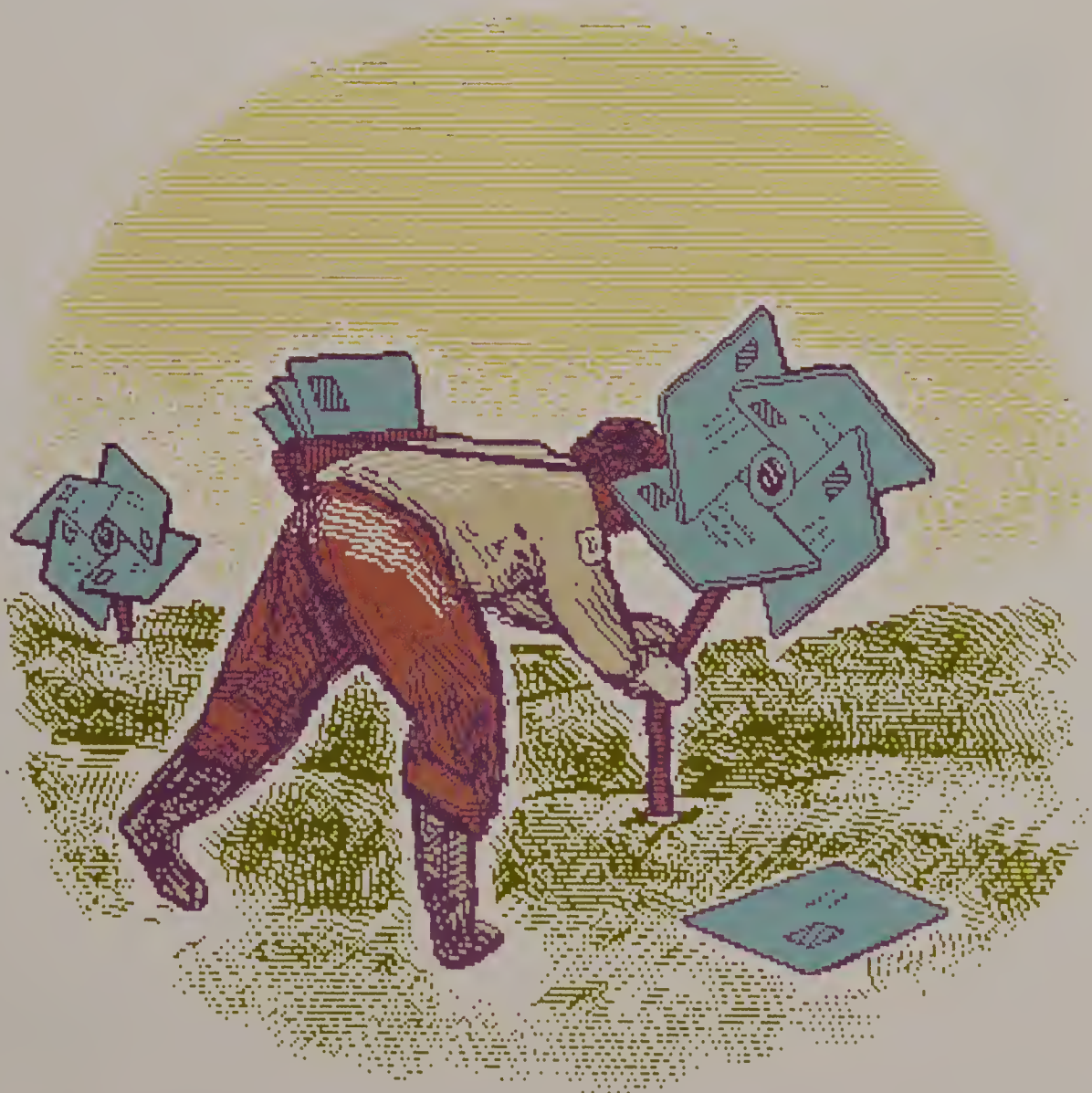
of customer service. Unfortunately, many software companies are more interested in protecting themselves from pirates than they are in servicing those who have supplied them with profits.

Once my check is cashed, I have no recourse if the program has been misrepresented. If the customer service department is perpetually out to lunch, I'm out of luck. If the disk on which the program is installed proves defective, I've got

only a few months to discover it. (With some programs, certain utilities may not be accessed for a year or more.)

For my money, I expect better treatment. Until that is forthcoming, I'll look seriously for alternative sources of programs (read that as piracy) to discover which programs are suited to my needs.

*(continues on page 42)*





# Maccessories® make your Macintosh™ more accurate, more convenient, and more reliable.

Maccessories from Kensington Microware—an entire family of products to enhance your Macintosh. Maccessories make your computer more convenient. They increase your system's flexibility. And they protect your investment.

## 1 Control Center



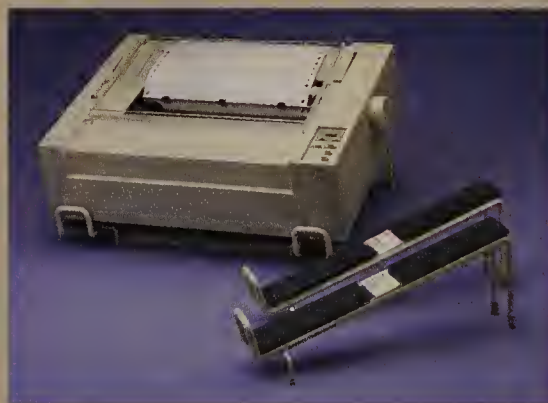
Organizes all your power needs. Styled to fit underneath your second disk drive, it provides fingertip control over your whole system. There's a master switch to power the whole system on and off, and individual switches for a printer, modem and one auxiliary device. And Control Center protects your entire Macintosh system from damaging power surges, line noise and static shocks.

## 2 Surge Suppressor



Portable protection for a travelling Macintosh. Surge Suppressor replaces your power cord, providing UL listed surge suppression and line noise filtering. It's light and fits easily into your carrying case.

## 3 Universal Printer Stand



Raises your Apple® Imagewriter® at a slight angle so you can monitor its performance more easily. It solves the problem of where to store paper—several hundred sheets are accommodated neatly underneath. (Also fits most other dot matrix printers.)

## 4 A-B Box



If you want to take advantage of the AppleTalk™ network, a Laserwriter™ printer or a hard disk in addition to your Imagewriter and modem, you'll have three peripherals competing for the two serial ports on your Macintosh. The A-B Box gives you the extra serial port you need. Just plug two of your peripherals into the A-B Box and plug the Box into one of your Macintosh serial ports. Then simply divert your data output to the peripheral of your choice—press A to send to one, B to the other. Fits perfectly underneath your external disk drive.

## 5 Tilt/Swivel



Gives you the flexibility to tilt and swivel your Macintosh to the viewing angle most convenient for you.



## 6 Polarizing Filter



The solution to a glaring problem. Made exclusively for Kensington by Polaroid®, it protects your eyes by reducing reflected screen glare by up to 99%. Also improves screen contrast. Easy to install.

## 7 Disk Case & Disk Pocket



Provides safe storage for 36 Macintosh disks. Comes with a packet of spare disk labels. Also includes a handy Disk Pocket for safe transportation of up to 5 disks.

## 8 Dust Covers



Protect your system from the elements. Anti-static dust covers for your Macintosh, Macintosh XL, Imagewriter, Imagewriter II and External Disk Drive.

## 9 Mouse Pocket



A safe, clean place to keep your Mouse when not in use. Attaches to the side of your Macintosh. Fits under the Maccessories Dust Cover.

## 10 Mouse Cleaning Kit



A full year's supply of the cleaning materials you'll need to keep your mouse rolling at top speed. Also includes the Mouse Pocket.

## 11 Mouseway



A dirt and static-resistant work surface keeps your Mouse rolling smoothly. Protects your desk, too.

## 12 Disk Drive Cleaning Kit



A full year's supply of the cleaning materials you'll need to keep your drives running smoothly.

## 13 Graphic Accents



A collection of over 250 professional illustrations, covering everything from business to holidays. Use them for reports, newsletters or greeting cards. Graphic Accents are stored in standard MacPaint™ files, for ease of use.

## 14 Professional Type Fonts

Styled after the most popular type faces in the publishing industry. Type Fonts for Text contains 16 fonts in sizes 12 to 24 point. Type Fonts For Headlines (for the 512K Mac) contains the same fonts in sizes 24 to 72 point. Including versions of Times Roman, Helvetica, Optima, Futura, and a dozen others.

Maccessories are available at Apple dealers everywhere. For more information write or call: Kensington Microware Ltd., 251 Park Avenue South, New York, NY 10010. (212) 475-5200. Tlx: 467383 KML NY.

Trademarks: Maccessories/Kensington Microware Ltd., Apple, Macintosh, Imagewriter, AppleTalk, Laserwriter, MacPaint/Apple Computer, Inc.; Polaroid/Polaroid Corp.; Fonts by XIPHAS. © 1985 Kensington Microware Ltd.





## Letters

(continued from page 35)

The prevailing "too bad" and "maybe next week" attitude of software companies has eroded my sympathies. To them I say, "If I can pirate it, too bad," and "maybe I'll buy it next week . . . if it looks good."

*Daniel Breckenridge  
Middlebury, Vermont*

### The Early Bird Learns to Wait

As I and other pioneer Macintosh owners have come to realize, it's smarter to wait than to rush out and buy to our hearts' content. The announcement of the 512K Macintosh served as our primary education to this philosophy. As Apple announced its upgrade from a 128K Mac to a 512K Mac for a mere \$600, we pioneers lamented our gullibility. If only we had waited a few more months.

I hope that Apple will show a little bit more consideration to its 600,000-plus Macintosh owners regarding future upgrades. The "rest of us" deserve a break.

*Brannen Taylor  
Dumfries, Virginia*

### Parlez-vous Macintosh?

The Macintosh is justifiably known for its graphic resolution and flexibility, which are great boons to the multilingual word processing we do in the Rhodes College foreign language department. Accented characters can be generated easily and clearly. Helvetica and Times are especially useful fonts that can produce a complete range of capital letters with accents.

The Macintosh is so user-friendly that it seems to have been designed for people who hate computers and like the arts and words. However, a major drawback is the incredible lack of communication between Mac and Apple II series computers, for which most educational software is written. We hope the Apple family can soon get on speaking terms.

*Jim Vest and Nancy Vest  
Memphis, Tennessee*

### Higher Education

Isn't it ironic that kids use Apple IIs in elementary grades and high school and then bounce off to college into a world of the user-friendly Macintosh?

*Theresa-Marie Rhyne  
Stanford, California*

### Don't Give Up on the Lisa

To the present owners of Lisas: do not be discouraged. You do not have a dead-end computer. On the contrary, your Lisas reborn as Macintosh XLs have a long and productive future ahead despite bad news from Apple.

The Lisa that I use at work, now a Macintosh XL with the latest round of Macintosh XL hardware enhancements and Macintosh system software, has truly arrived as an excellent business computer.

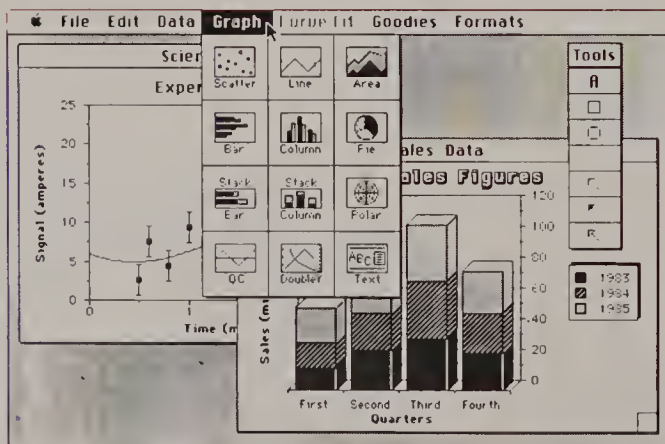
The Fortune 100 company for which I work is probably one of the few major corporations where the Lisa computer is used in large numbers. At my location we have some 200 Lisas using Lisa 7/7 software. (We also have a rapidly growing number of Macintoshes and Macintosh XLs.) Our company has found the Lisa to be a reliable and sought-after workhorse within the bounds of the seven applications that the Lisa Office System supports.

I have my own Macintosh 128K at home and have enough experience with floppy-based and HyperDrive 512K Macintoshes.

(continues on page 46)

## cricket GRAPH

The most revolutionary  
business & scientific graphics package  
available for the Macintosh™!



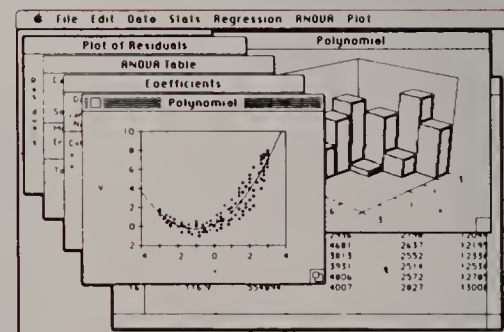
ONLY \$195.00

DEMO \$6.95

- Sixteen bar patterns & plot symbols
- Selection of fonts, sizes & styles
- Text, lines & arrows added anywhere
- Large data sets of 2000 or more points
- Regression curve fits
- Error bars (both x & y)
- Enter & edit data quickly
- Easy importing of data
- **Graphic Macros** for speed & ease

- Quality Control Charts (8 types)
- Position and size each graph on the page
- Multiple graphs per page
- Overlay one or more graphs
- Print on ImageWriter or LaserWriter
- **Color graphs** using . . . Color plotters (HP & others)
- Special version available for film recorders

## StatWorks™



ONLY \$125.00

DEMO \$6.95

A statistical package designed with a wide variety of applications that you don't need to spend hours learning.

cricket  
software

215 • 387-7955  
3508 Market St. Suite 206 • Philadelphia, PA 19104

for ordering or to have a brochure sent

**1-800-345-8112**

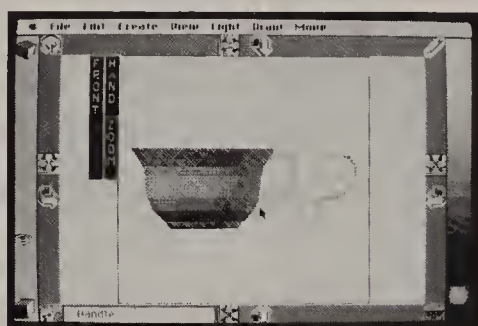
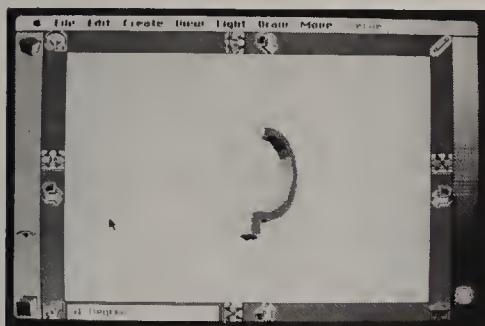
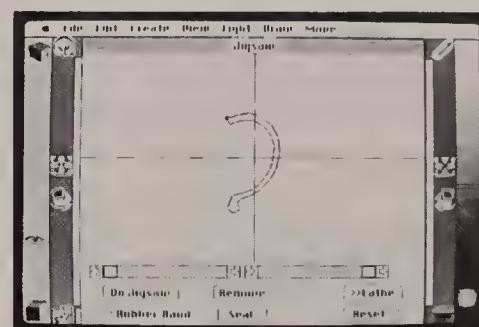
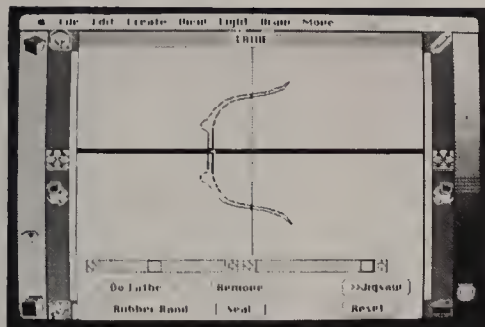
In PA 1-800-662-2444

Requires 128K. ImageWriter and LaserWriter are trademarks of Apple Computer, Inc.

Circle 449 on reader service card



# Discover what Easy3D,<sup>TM</sup> your Mac and your imagination can do.



Even though Easy3D is fast becoming popular with architects, artists and engineers, you don't have to be a technical genius to use it. Thanks to its advanced interface—created by specialists trained in the behavioral sciences—you'll find that, with little or no training, you'll be able to create and manipulate complex, shaded three-dimensional models of lamps, jet planes, buildings, logo's, package designs, and more.

Just draw a basic outline and use the lathe or jigsaw to transform it into a solid, shaded figure. Not a wire frame.

## CAPABILITIES

- Instant 2D to 3D transformation
- Call up ready-made objects
- Hidden surface slicer and anti-matter sculpting
- Full rotation, orientation and scaling
- Merge, clone and outline objects
- Simultaneous four-view
- Four independent light sources and variable perspective
- Change scene composition and background
- Shaded surface embossing
- Compatible with:
- MacDraw,<sup>TM</sup> MacPaint,<sup>TM</sup> VideoWorks,<sup>TM</sup>
- PageMaker,<sup>TM</sup> LaserWriter,<sup>TM</sup> ImageWriter<sup>TM</sup>

Macintosh is a trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, Inc., and is used with express permission of its owners. MacDraw, MacPaint, LaserWriter, and ImageWriter are registered trademarks of Apple Computer, Inc. PageMaker and VideoWorks are registered trademarks of Aldus, Inc. and MacroMind, Inc., respectively. Easy3D is a registered trademark of Enabling Technologies, Inc.

Stretch it, shrink it, blow it up, rotate it, and combine it with other objects. Then set it in a 3D scene and transfer your finished image (up to 8" x 10") into a complementary program—such as MacPaint<sup>TM</sup>—for use in your layouts...drawings...proposals...you name it.

What's more, Easy3D is incredibly fast—rendering shaded objects at a rate of up to 12,000 polygons per minute on your 512K Macintosh.<sup>TM</sup> Yet it costs just \$99.

## \$99/IMMEDIATE DELIVERY

Find out *how* easy Easy3D is. Just stop by your nearest dealer and look through the documentation. Or ask for a trial-size diskette. Either way, you'll see for yourself that Easy3D is a great deal. Plus, if you choose to order direct, you'll get a 15-day money-back guarantee.

But don't wait. Discover for yourself how easy and fun it is to join your Mac in the third dimension.



Advanced user-interface designs  
from Enabling Technologies, Inc.

Call toll-free to order (VISA and MasterCard accepted) or contact your local dealer.

# 1 800 621-1203

In Illinois 1 800 942-2835

For more information call 1 312 427-0408 or write:  
Enabling Technologies, 600 S. Dearborn, Suite 1306,  
Chicago, IL 60605

Circle 403 on reader service card

MW036



## Mac Specials!

<b>Aldus Corporation</b> PageMaker	359.00
<b>Blythe Software</b> Omnis 3	245.00
<b>Hayden Software</b> Ensemble	149.00
<b>Innovative Data Design</b>	
MacDraft	139.00
<b>Kalmar Designs</b>	
Teakwood Roll-Top Disk Cases:	
Micro Cabinet (holds 45 3 1/2" disks)	14.00
Double Micro Cabinet (holds 60 3 1/2" disks)	21.00
<b>Kette Group</b>	
Capture any sound from the real world!	
MacNifty Sound Digitizer	119.00
<b>Living Video Text</b>	
Think Tank 512K	123.00
<b>Lotus Jazz</b>	339.00
<b>Mark Of The Unicorn</b>	
Professional Composer	245.00
<b>Microsoft</b> Excel	224.00
<b>ODS, Inc.</b> Consultant	109.00
<b>Practical Computer Peripherals</b>	
Mac Bottom Hard Disk 20MB \$ Lowest Price!	
<b>ProVUE Development</b>	
OverVUE 2.0	149.00
<b>Summagraphics</b>	
MacTablet \$ Lowest Price!	
<b>The Atlantis Company</b>	
Microstore MS-1 (Holds 80 3 1/2 Disks!)	12.00

## Backup & Utility Software

<b>Affinity Tempo</b>	69.00
<b>Apple Computer</b>	
Switcher Construction Set	12.00
<b>Assimilation Process</b> Guardian	22.00
Mac Memory Disk	22.00
Mac Mouse Tracks	22.00
MIDI Composer	22.00
Work 'N' Print	22.00
<b>Central Point Software</b>	
Copy II Mac	19.00
<b>Computer: applications, inc.</b>	
[[ in a Mac (Apple ][ Emulator)	52.00
<b>Crystal Canyon Computing, Inc.</b>	
The Mac Librarian	29.00
<b>Dreams Of The Phoenix</b>	
Quick & Dirty Utilities	27.00
<b>Fortnum Software</b> MacNest	31.00
<b>FWB Software</b> Hard Disk Util	59.00
<b>Hippopotamus Software</b> Hippo-Lock	65.00
<b>Ideaform</b> Mac Labeler (Version 2.0)	29.00
<b>Kette Group</b> Powercache	21.00
<b>Meacom</b> Mac + [[ (Version 1.0)	69.00
Mac + [[ (Version 2.0)	Call
<b>MicroAnalyst</b> MacZap	38.00
<b>Mainstay</b> MacBooster	32.00
Disk Ranger	32.00
N' Cryptor	26.00
<b>Nashoba Systems</b> FileFinder	18.00
<b>Nevins Microsystems</b> TurboCharger	55.00
<b>New Canaan Microcode</b>	
Mac Disk Catalog (128K)	29.00
Mac Disk Catalog II (512K)	36.00
<b>PBI Software</b>	
Icon Switcher or Icon Libraries	14.00
<b>Protekt-It Software</b> ProCopy/ProEdit	29.00
<b>Practical Computer Applications</b>	
MacBackup	42.00
<b>SMB Development</b> MacMate!	35.00
<b>SoftStyle</b> Estart V2.0	26.00
Laserstart	58.00
TI Start	49.00
Jetstart or Toshstart	26.00
<b>Symmetry</b> Quick Disk	21.00
Picture Base	34.00
<b>Tardis Software</b> Fast Finder	36.00
<b>Tesseract Software</b> MacCopy Version II	39.00

## Desk Accessory Programs

<b>Batteries Included</b>	
Battery Pak (Version 1.1)	27.00
<b>Borland</b> SideKick	44.00
<b>Dubi-Click Software</b>	
Calculator Construction Set	59.00
<b>Dreams Of The Phoenix</b> Twelve-C	27.00
<b>Electronic Arts</b>	
Custom Calculator Construction Set	34.00
<b>EnterSet</b> QuickSet (Version 2.0)	27.00
QuickPaint	27.00
QuickWord	32.00
<b>Haba Systems</b> Haba Window Dialer	29.00
<b>Harvard Associates</b> Desk Toppers	29.00
<b>Mainstay</b> Type Now	26.00
<b>Macadam Publishing</b>	
WindoWare Calendar or Phone Book	31.00
WindoWare Phone Book & Calendar	51.00
<b>MegaHaus</b> MegaDesk	67.00
<b>Silicon Beach Software</b>	
Accessory Pak #1	21.00
<b>T/Maker</b> ClickOn Worksheet	46.00
<b>Videx</b> MacCalendar	49.00

## Languages

<b>Apple Computer</b> MacPascal	95.00
Macintosh 68000 Development System	145.00
<b>Consular</b>	
Mac C/Mac C Toolkit (Version 4.0)	269.00

### Creative Solutions

MacForth Level I—Explorer's System	78.00
MacForth Level II—Professional System	127.00
<b>ExperTelligence</b> ExperLogo (Version 1.1)	79.00
ExperLisp (Version 1.04)	239.00
ExperOPS5	169.00
<b>Hippopotamus Software</b>	
Hippo-C Level 1	75.00
Hippo-C Level 2	215.00
Hippo-C Upgrade Kit	135.00
<b>Kriya Systems</b> Neon!	129.00
<b>Mainstay</b> MacASM	75.00
<b>Megamax, Inc.</b> Megamax C Compiler	175.00
<b>Microsoft</b> Microsoft Basic (Version 2.1)	86.00
Microsoft Logo	75.00
Microsoft Fortran Compiler	169.00
<b>Modula Corporation</b> MacModula-2	90.00
<b>Portable Software</b> PortaAPL	199.00
<b>SofTech Microsystems</b>	
Mac Advantage UCSD Pascal	159.00
UCSD Pascal Development System	127.00
UCSD Pascal Language Compiler	92.00
Fortran 77 Development System	189.00
Fortran 77 Language Compiler	155.00
Advanced Development Tool Kit	98.00
<b>Softworks Ltd.</b> Softworks C Compiler	237.00
<b>Terrapin</b> MacLogo	65.00

## Communications Software

<b>Aegis Software</b> MacMail-Telecom	32.00
<b>Apple Computer</b> MacTerminal	95.00
<b>Compuserve</b> Compuserve Starter Kit	21.00
<b>DataViz</b> MacLink with Cable	109.00
<b>Desktop Software</b> 1st Port	48.00
<b>Dilithium Press</b>	
PC to Mac and Back with Cables	89.00
<b>Dow Jones</b> Straight Talk	49.00
<b>Dreams Of The Phoenix</b>	
Mouse Exchange Terminal or BBS	27.00
<b>Haba Systems</b> HabaCom	42.00
<b>Hayes Microcomputer</b> Smartcom II	86.00
<b>Kaz Business Systems</b> MacDasher-Data	
Gen. D210 Term. Emulator	45.00
<b>Mainstay</b> Telescope	78.00
Turbo Download	25.00
<b>Mesa Graphics</b> Tekalike	179.00
<b>Mycroft Labs</b> Mite	87.00
<b>Palantir</b> inTouch	79.00
<b>Prometheus</b> ProCom-M	69.00
<b>Smith Micro Software</b> Market Link	42.00
<b>Source Telecomputing</b>	
The Source (subscription & manual)	30.00
<b>Southeastern Software</b> Mac Transfer	31.00
<b>Videx</b> Mail Center (2 User)	169.00
Mail Center (6 Users)	269.00

## Business Software

<b>Aegis Software</b> The HouseKeeper	32.00
<b>Apple Computer</b> MacProject	145.00
<b>Assimilation Process</b> Mac Spell Right	69.00
The Right Word	69.00
Business Essentials	65.00
<b>Computer Software Design</b> MacLion	99.00
<b>Creighton Development</b>	
MacHome or MacOffice	26.00
MacSpell +	55.00
<b>Cricknet Software</b> Cricket Graph	135.00
<b>DataFood</b> MacForms	42.00
DrawForms	30.00
<b>Datalogica</b> dMac III	Call
<b>DataPak Software</b> My Office	95.00
Executive Office	225.00
<b>Dreams Of The Phoenix</b>	
Day Keeper Calendar	27.00
<b>Desktop Software</b> First Base	95.00
First Merge	48.00
<b>Dow Jones</b> Market Manager PLUS	109.00
Spreadsheet Link	56.00
<b>Electronic Arts</b> Financial Cookbook	34.00
<b>Emerging Technology</b> MacOffix	79.00
<b>Forethought</b> Factfinder	84.00
Filemaker	105.00
<b>Haba Systems</b> Haba Will's	32.00
Haba Business Forms	32.00
Haba Business Letters	32.00
<b>Hayden Software</b> Ensemble	149.00
Hayden: Chart	59.00
Hayden: Speller	45.00
I Know It's Here Somewhere	35.00
<b>HowardSoft</b> Howard Tax Preparer	Call
<b>Human Edge Software</b>	
The Communications Edge	99.00
The Management or Sales Edge	127.00
The Mind Prober	27.00
The Negotiation Edge	147.00
<b>Layered</b> Front Desk	77.00
<b>Lazer Software</b> LazerBase	59.00
<b>Living Videotext</b> Think Tank 128	75.00
Think Tank 512	123.00

<b>MegaHaus</b> Mega Business Pack:	
File, Form, Merge & Desk	235.00
MegaFile	99.00
MegaForm	149.00
MegaMerge	65.00

<b>Micro Planning Software</b>	
Micro Planner	239.00
<b>Microsoft</b> Microsoft File	112.00
Microsoft Chart	72.00
Microsoft Excel	224.00
Microsoft Multiplan	112.00
Microsoft Word	112.00
Mac Business Pack:	
Word, Multiplan, File & Chart	342.00

<b>Nolo Legal Software</b> WillWriter	25.00
<b>Odesta</b> Helix (Version 2.0) \$ Lowest Price	
<b>Paladin</b> Crunch	165.00
<b>Satori Software</b> Bulk Mailer	79.00
<b>Smith Micro Software</b>	
Stock Portfolio System	109.00
<b>Softstyle</b> Decision Map	76.00
<b>SoftDesign</b> TimeBase V1.6	87.00
<b>SofTech Microsystems</b> MailManager	69.00
<b>SoftView</b> MacInfax Federal 1985	52.00
<b>Software Publishing</b>	
PFS:File/Report Combo V.A:03	100.00
<b>StatSoft</b> DataFast	39.00

## Publishing Tools

<b>Aldus</b> PageMaker	359.00
<b>Boston Software Publishers</b>	
The MacPublisher	74.00
The MacPublisher II	109.00
<b>Manhattan Graphics</b>	
ReadySetGo (Version 2.1)	Call
<b>Microsoft</b> Typographer	112.00

## Overlays For Multiplan™

<b>Allegro Software</b> Softstart	29.00
Personal Finance	29.00
Business Analyst	29.00
<b>Apropos</b> Financial Planning	45.00
Investment Planning	45.00
<b>Harris Technical Systems</b>	
Profit Projections/Breakeven Analysis	47.00
<b>RealData, Inc.</b>	
Overlays For Multiplan, Jazz & Excel™	
Tax Shelter Syndication Analysis	169.00
On Schedule	119.00
Real Estate Investment Analysis	89.00
Financial Analysis	62.00
Commercial/Industrial Applications	62.00
Residential Real Estate	62.00
<b>Overlays For Microsoft Excel™</b>	
Property Management Level I	175.00
Mortgage Qualifier	119.00
<b>Simon &amp; Schuster</b>	
Construction Estimator	42.00
<b>Synetics</b> Syncorp Budget Aids	45.00

## Accounting Packages

<b>Aegis Software</b> ZAP! Invoice	54.00
<b>Applied Logic Systems</b>	
BizMac Small Business Systems	Call
<b>Applied Micro Solutions</b>	
AMS General Ledger	169.00
<b>Chang Labs</b> Rags to Riches Ledger	99.00
Rags to Riches Receivables	99.00
Rags to Riches Payables	99.00
Rags to Riches Three Pack — GL/AR/AP	245.00
<b>Continental/Arrays</b>	
The Home Accountant	52.00
<b>Digital, Etc.</b> Maccountant	139.00
<b>Future Design Software</b>	
Strictly Business Accounting System:	
Module 1 — General Ledger	239.00
<b>Haba Systems</b> Haba Checkminder	42.00
<b>Intermatrix</b> Chequebook	26.00
<b>Micromax</b> Gallery Finance Package:	
GL/AR/AP/Cash Disbursements	439.00
<b>Gallery Finance Package:</b>	
Special Edition	179.00
<b>Monogram</b> Dollars & Sense	81.00
Forecast	40.00
<b>Open Systems</b> Open For Business I	295.00
Open For Business II	495.00
<b>Orion Training Systems</b>	
Orion Checkwriter	52.00
<b>Palantir</b> General Ledger	75.00
Accounts Receivable	75.00
Inventory Control	75.00
<b>Peachtree</b> General Ledger	87.00
Accounts Receivable	87.00
Accounts Payable	87.00
<b>Sierra On-Line</b>	
MacOneWrite/General Ledger	137.00
MacOneWrite/Cash Disbursements	137.00
MacOneWrite/Accounts Receivable	137.00
MacOneWrite/Payroll	137.00
Accountants Choice Modules (ea.)	399.00
<b>SoftSync</b> Personal Accountant	54.00
<b>Symposium</b>	
Symposium General Ledger	175.00
<b>Timeworks</b>	
Sylvia Porter's Financial Planner	51.00
J.K. Lasser's Money Manager	Call

## Statistics Packages

<b>BrainPower</b> Statview	99.00
<b>Cricknet Software</b> Statworks	89.00
<b>Northwest Analytical</b> NWA StatPak	245.00
NWA Quality Analyst	315.00
<b>StatSoft</b> StatFast-2	75.00

## Graphics Software

<b>Apple Computer</b> MacDraw	145.00
<b>Altsys Corp.</b> Fontastic	24.00
<b>Ann Arbor Softworks</b>	
Animation Tool Kit I	31.00

InMotion	99.00
<b>Axlon</b> Art Portfolio	35.00
Card Shoppe	35.00
<b>Casady Company</b> Fluent Fonts	29.00
<b>Challenger Software</b> Mac 3D	125.00
<b>Esoft Enterprises</b> ColorChart	59.00
<b>Hayden</b> Art Grabber	29.00
VideoWorks	59.00
Home Design w/Art Grabber	48.00
DaVinci: Buildings	29.00
DaVinci: Building Blocks	46.00
DaVinci: Commercial Interiors	114.00
DaVinci: Interiors	29.00
DaVinci: Landscapes	29.00
<b>Innovative Data Design</b> MacDraft	139.00
Paste-Ease Volume 1	35.00
<b>I/O Designs</b> ColorPrint Software Only	29.00
ColorPrint Starter Kit-3	45.00
ColorPrint Starter Kit-6	59.00
ColorPrint Transfer Starter Kit	59.00
ColorRibbon — Heat Transfer Ribbons (ea.)	9.00
<b>Kensington Microware</b> Graphic Accents	29.00
Professional Type Fonts For Text	29.00
Professional Type Fonts For Headlines	42.00
<b>Magnum Software</b> McPic! Volume 1 or 2	29.00
The Slide Show Magician	34.00
<b>Matrix</b> Advocates Images	27.00
<b>Mesa</b> Graphics Plot-It	69.00
<b>Microsoft</b> Microsoft Art Manager	38.00
<b>MicroSpot</b> MacPlot	117.00
MacPlot Professional	224.00
<b>Miles Computing</b>	
Mac The Knife Volume I	21.00
Mac The Knife Volume II	25.00
Mac The Knife Volume III	27.00
<b>Springboard</b>	
Art A La Mac Vol. 1 — People & Places	23.00
Art A La Mac Vol. 2 — Variety Pack	23.00
<b>T/Maker</b>	
Click Art Letters or Personal Graphics	29.00
Click Art Publications or Effects	29.00
<b>Vamp, Inc.</b> McCad	299.00

## Educational/Creative Software

<b>Addison Wesley</b> Smart Eyes	36.00
<b>ATI</b> MacCoach Training	45.00
Jazz Training	45.00
Teach Yourself Multiplan	45.00
Teach Yourself Excel	45.00
<b>BrainPower</b> Chipwits	27.00
PowerMath	52.00
Thinkfast	22.00
<b>Camde</b> Nutri-Calc	59.00
<b>Chariot Software Group</b> Microtest II	149.00
<b>Davidson &amp; Asso.</b> Speed Reader II	37.00
Spell It!, Math Blaster, or Word Attack	27.00
<b>Electronic Arts</b> Pinball Construction Set	27.00
Deluxe Music Construction Set	32.00
<b>First Byte</b> Smooth Talker (Version 2.0)	55.00
Kid Talk or Speller Bee	42.00
<b>Forethought</b> Typing Intrigue	29.00
<b>Fortnum Software</b> MacChemistry	99.00
Two Disk Set Includes Templates & Chemlab	
<b>Great Wave Software</b> ConcertWare Plus	39.00
ConcertWare Plus Keyboard	129.00
ConcertWare Plus MIDI	64.00
ConcertWare Music V.1, V.2, or V.3	12.00
Comet Halley	19.00
<b>Harvard Associates</b> MacManager	29.00
<b>Hayden</b> MusicWorks	45.00
Score Improvement System for SAT	57.00
Score Improvement — Achievement Tests	57.00
Turbo Turtle	35.00
Computer Novel Construction Set	29.00
<b>Hippopotamus Software</b>	
Hippo Computer Almanac	20.00
Hippo Jokes & Quotes	20.00
Hippo Sound Studio I	29.00
<b>Micro: Maps</b> MacAtlas Volume 1 or 2	49.00
<b>Microsoft</b> Entrepreneur	31.00
Learning Multiplan & Chart	38.00
<b>Mindscape</b> Perfect Score SAT	47.00
<b>Ortho Information Services</b>	
ORTHO Computerized Gardening	29.00
<b>Palantir</b> MacType or MathFlash	29.00
WordPlay	27.00
<b>QED</b> Typing Made Easy	36.00
<b>Queue Intellectual Software</b>	
Not Like The Others	36.00
How Many? or Early Reader	25.00
What Comes Next?	35.00
Reading & Thinking I or II	39.00
Vocabulary Adventure I or II	44.00
Spanish Grammar I, II or III	25.00
World Geography Adventure I or II	44.00
U.S. Geography Adventure	44.00
How A Bill Becomes A Law	44.00
American History Adventure	44.00
Starting A New Business	44.00
Analogies I or II	49.00
College Aptitude Reading Exercises	49.00
<b>Rubicon Publishing</b> SongPainter	32.00
Deja Vu	22.0



# CONNECTICUT RESIDENTS CALL 378-3662 OR 8293

<b>Software Concepts</b>	
Concepts Computerized Atlas	45.00
<b>Spectrum Holobyte</b> Tellstar Level 1	27.00
Tellstar Level 2	42.00
<b>Think Educational</b>	
MacEdge II or Mind Over Mac	28.00
MacEdge Plus	28.00
Mad Mac & His Mindbox	28.00
<b>TimeWorks</b>	
Evelyn Wood Dynamic Reader	41.00
<b>Unicorn Software</b>	
Animal Kingdom or MacRobots	27.00

## Game Software

<b>Activision</b> Borrowed Time	27.00
Championship Star League Baseball	21.00
Hacker	27.00
Mindshadow	27.00
<b>Aegis</b> Mac-Challenger or Pyramid of Peril	24.00
<b>Ann Arbor Softworks</b> Grid Wars	22.00
<b>Artsci</b> Hearts	18.00
<b>Axlon</b> MacMatch	30.00
<b>Bantam Books</b>	
Sherlock Holmes: "Another Bow"	27.00
<b>Blue Chip Software</b>	
Barron or Millionaire	30.00
Squire or Tycoon	30.00
<b>Broderbund</b> Ancient Art of War	27.00
Cyborg or Lode Runner	24.00
<b>CBS Software</b> Murder by the Dozen	25.00
Felony	27.00
<b>Creighton Development</b> Mac Command	18.00
<b>EPYX</b> Winter Games or Rogue	24.00
Temple of Apshai Trilogy	24.00
<b>Electronic Arts</b>	
Dr. J & Larry Bird go One-On-One	26.00
SkyFox	26.00
Software Golden Oldies	24.00
<b>Fortnum Software</b>	
MacNooga Choo-Choo	25.00
<b>General Computer Co.</b> Ground Zero	24.00
<b>Hayden Software</b> Holy Grail	29.00
Masterpieces or Perplexx	24.00
Sargon III or Inca	30.00
Word Challenge II	24.00
<b>Infocom</b> A Mind Forever Voyaging	26.00
Cuththroats or Enchanter	23.00
Deadline or Starcross	29.00
Hitchhiker's Guide or Zork I	23.00
Infidel, Zork II or Zork III	26.00
Planetfall or Seastalker	23.00
Sorcerer or Suspect	26.00
Suspended or Spellbreaker	29.00
Wishbringer or Witness	23.00
Invisicluces—Hint Booklets (ea.)	6.00
<b>Magnum Software</b> Gypsy	23.00
<b>Miles Computing</b>	
MacAttack Or MacWars	27.00
Harrier Strike Mission	27.00
Fusillade or Overlords	27.00
<b>Mindscape</b> Balance of Power	30.00
Deja Vu: A Nightmare Comes True	33.00
James Bond 007: A View To Kill	24.00
Racter or The Halley Project	27.00
Rambo: First Blood Part II	24.00
Stephen King's: The Mist	24.00
<b>Origin Systems</b> Ultima III: Exodus	37.00
Ultima IV	37.00
<b>Other Valley Software</b>	
Monkey Business or Delta Patrol	21.00
<b>PBI Software</b> Feathers & Space	21.00
Strategic Conquest	29.00
Fokker Triplane	35.00
<b>Penguin</b> Pensate or Transylvania	24.00
Xyphus, The Quest, or Crimson Crown	24.00
<b>Practical Computer Applications</b>	
MacGolf	35.00
<b>Psion</b>	
Psion Chess (3D & Multi-Lingual)	31.00
<b>Priority Software</b>	
Forbidden Quest or Gateway	27.00
<b>Sierra On-Line</b>	
Championship Boxing or Frogger	24.00
Ultima II	35.00
<b>Silicon Beach Software</b>	
Airborne! or Enchanted Scepters	21.00
<b>Sir Tech</b> Wizardry	36.00
<b>Spectrum Holobyte</b> GATO or Orbiter	26.00
<b>Star Systems Software</b>	
12 Classic Adventures	39.00
<b>Telarium</b> Amazon or Dragon World	27.00
Fahrenheit 451 or Rendezvous w/Rama	27.00
<b>Unicorn Software</b> Futuria or Utopia	24.00
<b>Videx</b> Fun Pack	23.00
MacCheckers & Reversi	28.00
MacGammon & Cribbage	28.00
MacVegas	34.00

## Disk Drives/Hard Disks

<b>Apple Computer</b>	
Macintosh Hard Disk 20	1189.00
Macintosh External 400KB Drive	359.00
<b>Bal</b> MAC525-10 400KB External Drive	195.00
MAC535-20 800KB External Drive	295.00
<b>Corvus</b> 11.1 MB Mac OmniDrive	1399.00
21.6 MB Mac OmniDrive	1999.00
45.1 MB Mac OmniDrive	3449.00
126 MB Mac OmniDrive	Call
OmniTalk Multiuser Software	279.00
<b>Haba Systems</b>	
HabaDisk 800 KB DS/DD External Drive	369.00
<b>Imega</b>	
Bernoulli Box Personal Server 5MB	1299.00
Bernoulli Box for AppleTalk 1-10MB	Call
Bernoulli Box for AppleTalk 2-10MB	Call

5 Meg Cartridge	39.00
Head Cleaning Kit	59.00
<b>Mirror Technologies</b>	
Sony Magnum 800K Drive	399.00
Shugart 400 M/E Manual Eject Drive	169.00
<b>Mitsuba</b> Super 5 Mac External Drive	235.00
<b>Paradise Systems</b>	
Mac 10 Hard Disk Subsystem	759.00
Mac 20 Hard Disk Subsystem	969.00
<b>Personal Computer Peripherals</b>	
MacBottom Hard Disk 20MB	Call
<b>Quark</b> QC10-10 Meg Hard Disk	1029.00
QC20-20 Meg Hard Disk	1379.00
<b>Western Automation Labs</b>	
Dasch External RAMdisk 500K	Call
Dasch External RAMdisk 1000K & 2000K	Call

## Modems

<b>Anchor Automation</b>	
Signalman Express 1200 Baud	239.00
Signalman Lightning 2400 Baud	349.00
<b>Apple Computer</b>	
Apple Personal Modem 300/1200	279.00
<b>Hayes Microcomputing</b>	
Smartmodem 300	135.00
Smartmodem 1200	369.00
Smartmodem 2400	579.00
Transtet 1000	269.00
<b>Kensington</b>	
Portable Modem (300 Baud)	86.00
<b>Microcom</b>	
Mac Modem 1200 w/Software	419.00
<b>Novation</b>	
Cat Comm Communications System	Call
<b>Prentice</b>	
Popcom X-100 Modem w/Straighttalk	259.00
<b>Prometheus</b>	
Promodem 1200M w/ProCom-M	319.00
<b>U.S. Robotics</b>	
Password 1200 (Male for Macintosh)	199.00
Courier 2400	389.00

## Printers

<b>Apple Computer</b>	
ImageWriter II Color Printer	459.00
ImageWriter II 32K Buffer	79.00
ImageWriter II Cut Sheet Feeder	165.00
ImageWriter Wide Carriage	479.00
LaserWriter Printer	4569.00
<b>Brother</b> HR-15XL	339.00
HR-25	459.00
HR-35	679.00
<b>Dynax/Fortis</b>	
DH-45 Dual Head Printer	859.00
w/Ser. Interface	Call
<b>Epson</b> AP-80 Imagewriter Compatable	Call
DX-10/20 DaisyWheel	Call
FX-85/185 w/Hanzon Interface	Call
LQ-800/1000/1500 w/Serial Interface	Call
SQ-2000 w/Serial Interface	Call
<b>Hewlett Packard</b>	
Thinkjet, LazerJet, LazerJet Plus	Call
<b>Juki</b> 6100 Serial	379.00
6200 Serial	559.00
6300 Serial	659.00
<b>NEC</b> SpinWriter e.l.f. 360	385.00
SpinWriter 2010	625.00
SpinWriter 3510	995.00
SpinWriter 8810	1279.00
Color PinWriter CP2-6 10"	699.00
Color PinWriter CP3-6 15"	949.00
<b>NEC</b> Colormate Kit	79.00
<b>NEC</b> SpinWriter Accessory Kit	79.00
<b>Okidata</b> ML-192 Apple Mac/Lisa	369.00
ML-193 Apple Mac/Lisa	545.00
<b>Toshiba</b> P-1340 Parallel/Serial	399.00
P-341 Parallel/Serial	799.00
P-351 Parallel/Serial	1079.00

## Blank Media

<b>BASF</b> 3 1/2" Disks (box of 5)	12.00
Bulk 3 1/2" Disks (box of 10)	18.00
<b>Sony</b> 3 1/2" Disks (box of 10)	21.00
<b>Fuji</b> 3 1/2" Disks (box of 10)	21.00
<b>Maxell</b> 3 1/2" Disks (box of 10)	22.00
<b>Memorex</b> 3 1/2" Disks (box of 10)	23.00
<b>Verbatim</b> 3 1/2" Disks (box of 10)	23.00
<b>3M</b> 3 1/2" Disks (box of 10)	23.00

## Digitizers

<b>GTCO Corporation</b> Macintizer	399.00
<b>Kette Group</b> MacNifty Sound Digitizer	119.00
<b>Koala Technologies Corp.</b>	
KAT Graphics Tablet	135.00
MacVision	169.00
<b>New Image Technology</b> Magic Digitizer	249.00
<b>Summagraphics</b> MacTablet	Call
<b>ThunderWare</b> Thunderscan	175.00

## Accessories

<b>A.M. Products</b>	
3 1/2" Head Cleaning Kit	18.00
<b>Apple Computer</b> Mac Numeric Keypad	85.00
Macintosh Carry Case	85.00
<b>Assimilation Process</b> Numeric Turbo	129.00
Mac Turbo Touch	79.00
Mac Port Adaptor	69.00

<b>MIDI Conductor</b>	75.00
<b>Mac Epson Connection</b>	75.00
<b>Mac DaisyWheel Connection</b>	79.00
<b>Bech-Tech</b> Fanny Mac	79.00
<b>Creighton Development</b>	
ProPrint Software Only	39.00
ProPrint with Cable	52.00
ProPrint with AB/Switch & 2 Cables	135.00
<b>Curtis Manufacturing</b>	
Diamond-Surge Suppressor-SP1	28.00
Emerald-Surge Suppressor-SP2	34.00
Ruby-Surge Suppressor-SPF-2	50.00
Sapphire-Surge Suppressor-SPF-1	44.00
Crystal Power Conditioner-FPS-5	115.00
<b>Datashield</b>	
Backup AC Power Supply (200 Watts)	249.00
<b>Diversions, Inc.</b> Underware Ribbon	9.00
Underware Color Pens-Small	9.00
Underware Color Pens-Large	13.00
<b>Environmental Software Company</b>	
MacAttire: Available in Navy-Blue, Burgundy, or Silver-Gray.	
External Drive or Keypad Cover	7.00
Imagewriter Cover	11.00
ImageWriter II Cover	11.00
ImageWriter Wide Cover	13.00
Mac & Keyboard Cover	15.00
LaserWriter Cover	17.00
Mac XL & Keyboard Cover	20.00
<b>Ergotron</b> MacTilt	75.00
<b>Hanzon</b> Universal Data Buffer w/64 K	289.00
<b>Innovative Concepts</b> Flip 'n' File/Micro	8.00
Flip 'n' File II/Micro	18.00
<b>Innovative Technology</b>	
Pocket Pack (holds 6 disks)	9.00
The Easel (holds 20 disks)	12.00
<b>I/O Design</b> Imagewriter Carrying Case	38.00
Imagewriter Wide Carrying Case	44.00
Macintosh Carrying Case	49.00
Disk Book (Holds 32 3 1/2" Diskettes)	21.00
<b>Kensington</b> A/B Box	60.00
Disk Case (holds 36 Mac disks)	19.00
Disk Drive Cleaning Kit	19.00
External Disk Drive Cover	8.00
ImageWriter or ImageWriter II Cover	8.50
Macintosh Dust Cover	8.50
Mouse Cleaning Kit w/Pocket	16.00
Mouse Pocket	8.00
Circular Polarizing Filter	31.00
Starter Pack (includes Tilt/Swivel)	53.00
Surge Protector	32.00
Swivel	21.00
Tilt/Swivel	22.00
Control Center	60.00
Printer Stand	17.00
<b>Kette Group</b> MacNifty Joystick Converter	36.00
MacNifty Stereo Music System	55.00
MacNifty A/B Switch	22.00
MacNifty A/B/C/D Switch	32.00
<b>Kraft</b> QuickStick	45.00
<b>Microsoft</b> MacEnhancer	159.00
<b>Mouse Systems</b> A + Optical Mouse	59.00
<b>MousTrak</b> MousePad 7" x 9" Size	8.00
MousePad 9" x 11" Size	9.00
<b>MPH Computer Products</b> MAC-B-COOL	99.00
<b>N2 Products Inc.</b>	
Highest Quality Molded & Shielded Cables, with Thumbscrews matching the Macintosh's Style & Color perfectly!	
Macintosh to Modem Cable (6 feet)	19.00

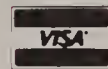
Macintosh to Printer Cable (6 feet)	19.00
<b>Optimum Computer Luggage</b>	
MacTote Mac Carry Case	60.00
<b>Ribbons Unlimited</b>	
Available in Black, Blue, Brown, Green, Orange, Purple, Red, Yellow, Silver & Gold	
ImageWriter Ribbon—Black	4.50
ImageWriter Ribbon—Color	5.00
ImageWriter Rainbow Pack (6 Colors)	27.00
<b>Smith &amp; Bellows</b>	
Hand Crafted Mahogany Disk Case: Holds up to 90 Diskettes	19.00
<b>Systems Control</b> MacGuard	55.00
<b>Video 7</b> Mouse Stick	38.00

## Books

<b>Microsoft Press</b>	
Creative Programming in Microsoft Basic	14.00
Excel in Business	17.00
Inside MacPaint	14.00
Macintosh Midnight Madness	14.00
MacWork/MacPlay	14.00
Microsoft Macinations	16.00
Microsoft Multiplan: Of Mice & Menus	13.00
Presentation Graphics on The Apple Macintosh	14.00
The Apple Macintosh Book	14.00
The Printed Word	13.00

## ORDERING INSTRUCTIONS:

VISA AND MASTERCARD ACCEPTED



To order, call us anytime Monday thru Friday 9:00 to 9:00, Saturday 10:00 to 6:00. For fast delivery if ordering by mail, send cashier's check, certified check or money order. Fortune 1000 & Government checks honored immediately. Personal and other company checks allow 2 weeks to clear. MasterCard & Visa include card # & expiration date. Connecticut residents add 7.5% sales tax.

**Shipping Charges: Software**—\$300 Minimum charge U.S. Mainland. With C.O.D. shipments add an additional \$2.00 U.S. Postal, APO, and FPO add 3% (\$5.00 Min.). Alaska or Hawaii add 6% (\$10.00 Min.). Canadian orders add 10% (\$15.00 Min.). Foreign Orders except Canada—Add 18% (\$25.00 Min.).

**Hardware**—Please call for shipping charges

**Our Policy:** We do not guarantee machine compatibility. All products are new and include factory warranty, therefore ALL sales are final. Defective software will be replaced by the same item only. Defective hardware will be replaced or repaired at our discretion. Prices & availability subject to change without notice. Products purchased in error, subject to 20% restocking fee. All returns must have an authorization number. Call (203) 378-3662 to obtain one before returning defective products for replacement.

For items not listed just call:

**Visit Our New Showroom:**  
**Exit 32 off I-95**

# PROGRAMS

# PLUS

Stationhouse Square, 2505 Main Street • Stratford, Conn. 06497  
(203) 378-3662 • (203) 378-8293

**Corporate and School Purchase Orders Accepted**  
Monday-Friday 9-11, Saturday 10-11 **Circle 194 on reader service card**  
**ORDERS ONLY TOLL FREE 1-800-832-3201**  
**MACINTOSH 128K/512K SYSTEMS . . . . . Call**  
**Circle 194 on reader service card**



(continued from page 42)

toshes to appreciate the real value added by the larger Macintosh XL screen, access to large amounts of RAM (up to 2 megabytes) for use with programs like the *Switcher* and a RAM disk, and the speed and convenience of using an integrated hard disk.

The Macintosh XL still represents a very good bargain as a business computer and the most powerful high-end Macintosh until the next generation of the Macintosh workstation appears.

Clifford C. Huff  
San Jose, California

## Bringing Up Baby

I feel like a protective father whose only child was the epitome of state-of-the-art in microcomputer technology. Lately I've been feeling very threatened by a couple of new kids on the block. Especially Papa Commodore's new brainchild.

I need some help from Apple to hold my own in the computer parents' boasting meets. I would like to believe that Apple is busy improving the performance of the

Macintosh, soldering together second-generation Macs and bringing the Apple II line into the eighties. I hope that Apple, after introducing the new Mac, will sell the original for under \$1000 to ensure a wider user base and continued support from software companies.

If what I have mentioned is not happening, then I hope a company with greater vision buys Apple out. Otherwise, we will all find ourselves with a nice machine made by a creative company that ultimately went the way of the rest of them.

Philip M. Kane  
Reston, Virginia

## When Will They Ever Learn?

Shame on Apple. I'm waiting for the real *MacTerminal* documentation, which Apple promised to send upon receipt of the registration card I mailed three months ago. Likewise, I await the rebate promised for my purchase of *MacTerminal*. *MacPaint* and *MacWrite* manuals, for all their concise brevity, are on the extreme side of shoddy when it comes to detail, forcing me to purchase, search through, and save expensive periodicals to fill the gap left by Apple on how to use my \$2500 tool fully. I should be spending my money on disks and software—not documentation.

Shame on Apple for wasting all the time and money it will take to battle Steve Jobs in court while customers are feeling stranded in the marketplace. If Apple didn't want Steve Jobs's contribution within the company, why fear his competition now that he's putting his best to work outside the company?

My allegiance is slipping, and it deeply saddens me. There was a time when I'd gladly have paid extra for an Apple, proud that I wasn't just buying excellent equipment but investing in a more positive future. Where have all the flowers gone?

Tim Conner  
Kingman, Kansas

*We rarely hear complaints about delayed Apple rebate checks. You should expect a check to arrive six to eight weeks after you mail your request. If it takes longer, ask the dealer that sold you the product to look into it. The MacTerminal documentation should also have arrived within eight weeks. To track down the documentation you are waiting for, contact Apple Computer, Inc./Milestone*

(continues on page 50)

# NEON™ TURN ON THE FULL POWER OF YOUR MACINTOSH.™

## THIS MESSAGE IS FOR BEGINNING PROGRAMMERS, TOO!

Hidden within your Mac is the programming power, flexibility, and speed to match your imagination. Neon is your key to this object-oriented world. Based on the same design philosophy as the Mac itself, Neon lets you create and command objects — program modules that you build, perfect, and add to your personal collection of tools. In this Smalltalk-like environment, you wield the power to quickly assemble and test ideas, tuning as you go for maximum speed and efficiency. □ Neon now includes full floating point support. An integrated Neon Assembler is also available as an add-on product. □ Neon is easy to work with and comes with a comprehensive manual by Danny Goodman. □ Created by Kriya Systems, Inc. for the development of our Typing Tutor III™ program, Neon is your answer for professional software development. With Neon, there are no licensing fees. Ever. For the MacIntosh developer, Neon is the best choice.



To choose, call 1-800-34-KRIYA (In Virginia, 703-430-8800) with Visa/MC. Or Write Kriya Systems, Inc., Six Export Drive, Sterling, VA 22170. Neon, \$195; Neon Assembler, \$50. Add \$5 shipping for each.

Neon and Typing Tutor III are trademarks of Kriya Systems, Inc. Apple Macintosh is a trademark of Apple Computers, Inc.

Circle 246 on reader service card







# DISCOVER THE INTERSECTION OF DIVERSITY AND POWER!

## MEET "INTERLACE"; THE DATABASE WITH A SPREADSHEET ON ITS MIND!

■ **Interlace**, the next step beyond databases...providing complete information management, analysis, and presentation. Interlace not only provides a fully relational database with filing, organizing, data storing and retrieval capabilities but it also has the full power of a spreadsheet with visual forms layout to provide complete business solutions without programming.

**Outstanding software at a superb introductory price, \$95!**

■ Interlace also leaves integrated database and spreadsheet packages behind by providing a unified information management and analysis solution. Some features include:

- visual database design • automatic restructure • non-procedural query and calculation • visually designed custom forms and reports • multi-file data linkage, and • data consistency checking.

■ The Interlace package comes with a second disk loaded with useful individual and business solutions! There are: • 1040 forms which allow "what if" tax planning • portfolio analysis • a parts explosion model which does cost calculations. Each of these problems was quickly and easily solved with

Interlace **without programming**. Imagine what you can do with this much power.

■ Interlace, the information management, analysis and presentation solution, which runs on the 512K Macintosh and **at a superb introductory price of \$95**, backed by a 60 day money back guarantee and shipment within 48 hours, truly an incredible offer! You have everything to gain! **Meet the database with a spreadsheet on its mind—INTERLACE.**

## INTERLACE INFORMATION™ MANAGER

Call (800) 626-8392 or in CA, (800) 826-1585 or send in this coupon.

Send me **Interlace for \$95**. (plus \$4.00 shipping) Outside USA add \$10 and make payment by bank draft, payable in US dollars drawn on a US bank. COD's and Purchase Orders WILL NOT be accepted. I wish to pay by:

☐ Check or ☐ Money Order (enclosed) or ☐ Credit Card.

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

☐ Visa

☐ MasterCard

Card #: \_\_\_\_\_

Expiry date: \_\_\_\_\_

Signature: \_\_\_\_\_

California residents add 6% sales tax.

*Singular*  
SOFTWARE™  
5888 Castano Dr.  
San Jose, CA 95129

Macintosh is a trademark licensed to Apple Computer, Inc.



# Is your Mac suffering from terminal overheating?

Heat-sensing thermograph reveals dangerously high temperatures: up to 137°F externally, 180°F internally.

## Keep your cool with MacFan™

You might not know it until it's too late, but your Macintosh™ could be burning up inside. Because even with normal use, high operating temperatures will shorten the life of your components – or burn out your circuit board entirely. Unless you're protected by MacFan.

## Quiet good looks.

MacFan cools your Mac continuously with fresh, forced air. It's quiet, compact and so well designed, it won't affect the clean lines of your terminal. Just slide it on and plug it in. You still have a sturdy carrying handle. And a Mac that fits perfectly in its original carrying case. So you only lose heat – not portability.

## Two outlets, total control.

Once installed, MacFan becomes your computer control center. It has two rear outlets (7 amps each) for your printer, hard drive or other accessories. A top-mounted power switch controls both your Macintosh and peripherals.

## Automatic surge protection, too.

MacFan also eliminates the danger of permanent computer damage and data loss from power line surges and fluctuations. No need to pay extra for add-on surge protectors.

## Compatible and affordable.

MacFan fits the Macintosh 128k, 512k, all upgrades and Hyperdrive™. Although it can save you far more in repairs and data loss, it costs only \$129.95. So don't run the risk of terminal burn-out. Order MacFan today.

## Call toll-free 1-800-468-3577.

In Illinois, call 312/647-0564.  
MasterCard, Visa and American Express accepted.

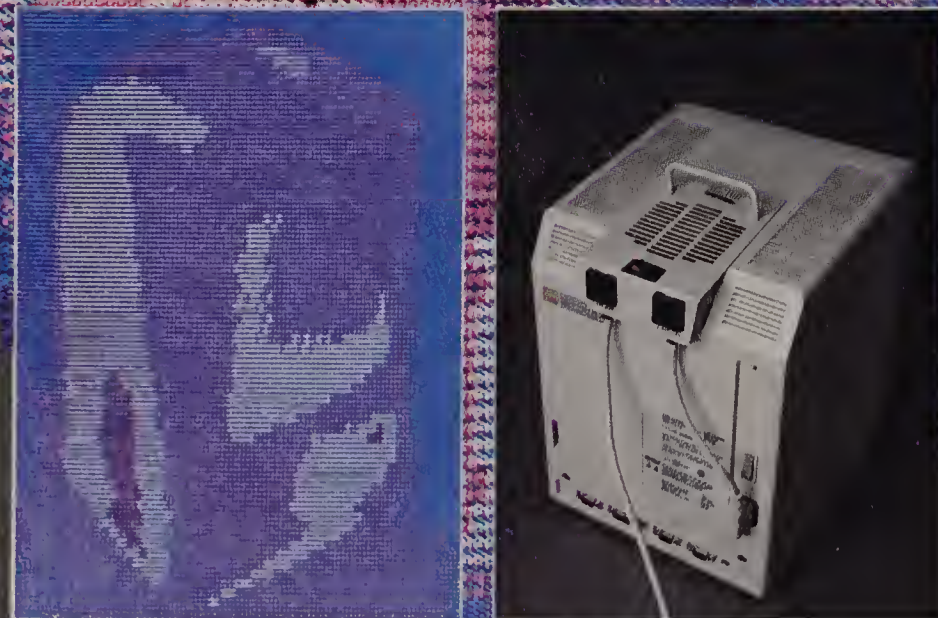
# MacFan™



A product of Blowhard Industries  
6457 W. Howard Street, Niles, IL 60648

Circle 474 on reader service card

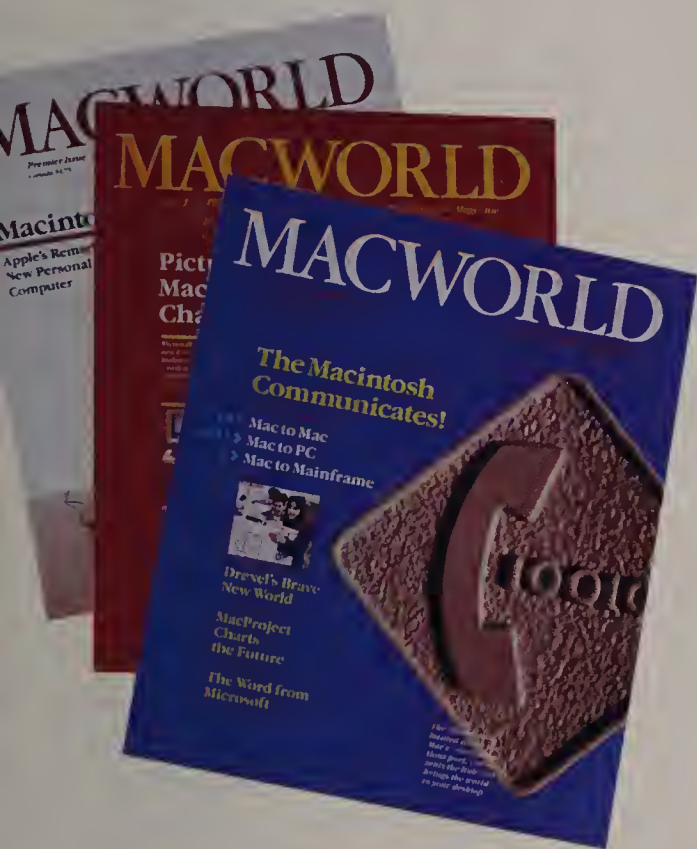
Macintosh is a trademark licensed to Apple Computer, Inc.  
MacFan is a trademark of Blowhard Industries, Ltd.



MacFan cools internal components by 58° to a safe 122°F.



*Now that you have the computer for the rest of us, do yourself another favor. Read this ad.*



Like most Macintosh™ users, you probably don't realize the many benefits of the International Apple Core.™ Or what we can do for you and your Mac.

The International Apple Core is a nonprofit organization of Apple users and user groups. We're just like your Macintosh, friendly and helpful.

We're dedicated to providing education, information and support to users of Macintosh and Apple products.

You can enjoy all the special benefits we have been providing user groups since 1979. You may share information on new applications. Or learn the latest on Macintosh products. Or keep up on Apple events.

If you'd like to join a local user group or contact other Macintosh enthusiasts, we can help.

**A membership that pays you.**

Our individual membership brings you discounts on public domain software, computer insurance, Micro Disk Minder™ and Penta

Pac™ to keep your 3.5s in order, and a subscription to MACWORLD. If you have a subscription now, it will be extended for twelve issues.

You'll receive all this and more for only \$30 yearly membership fee.\*

If you get together with other Macintosh owners, you're on your way to forming a user group. And that's good. Because you can benefit even further from the IAC.

Our user group membership includes a subscription to MACWORLD, plus group purchases at bigger discounts. All the benefits of an individual membership and more. For not much more. Just \$45 yearly.\*

If you've considered forming a user group, you'll want our Club Management Binder. For only \$35 you receive sample bylaws, ideas on forming and running your group, and electing officers and directors. All enclosed in a hard bound ring binder with two disks.

Individually or as a group you can't lose. So fill out the membership coupon below. And do yourself another favor.



Micro Disk Minder and Penta Pac are trademarks of International Datawares, Inc.

Apple and Apple II are registered trademarks of Apple Computer, Inc.

\*Membership prices are for the United States and Canada only.

**I want more for me and my Mac. Please see my choice below:**

- ☐ \$30 Individual Membership (US, Canada)
- ☐ \$45 User Group Membership (US, Canada)

**International Memberships**

- ☐ \$100 Individual Membership
- ☐ \$125 User Group Membership (These include airmail postage for MACWORLD.)
- ☐ \$35 Club Management Binder

- ☐ Payment enclosed (U.S. funds only)
- ☐ VISA    ☐ MasterCard

Charge Card No.

□□□□□□□□□□□□□□□□

Interbank No.

□□□□

Expiration Date

□□    □□    □□  
MO    DAY    YEAR

Signature

Name

Address

City

State/Zip

Country

**Mail to:**  
International Apple Core  
Dept. MAC  
908 George Street  
Santa Clara, CA 95050



(continued from page 50)

Group, Attn: MacTerminal Program, 467 Saratoga Ave. #621, San Jose, CA 95129, 408/988-6009.—Ed.

### Ask, and You Shall Be Transferred

While attempting recently to write a Macintosh Pascal program, I ran into a situation that was not covered in the manuals. I called my local dealer to find out how to print the contents of the Drawing window and was referred to Apple. I then called Apple long distance and told the person who answered that I had a technical question. I was immediately given a recording that told me to call my local dealer for assistance.

This is not the first time I have run into this problem, but I have always managed to get around Apple's lack of technical assistance by calling the software publisher. What do you do when Apple publishes the software? Does anyone know how or where I can get help?

The Mac has the greatest capabilities of any machine around, but what good are they if you can't get at them? I don't think the Mac will seriously compete in the business world until Apple decides to answer users' questions in a more expeditious manner.

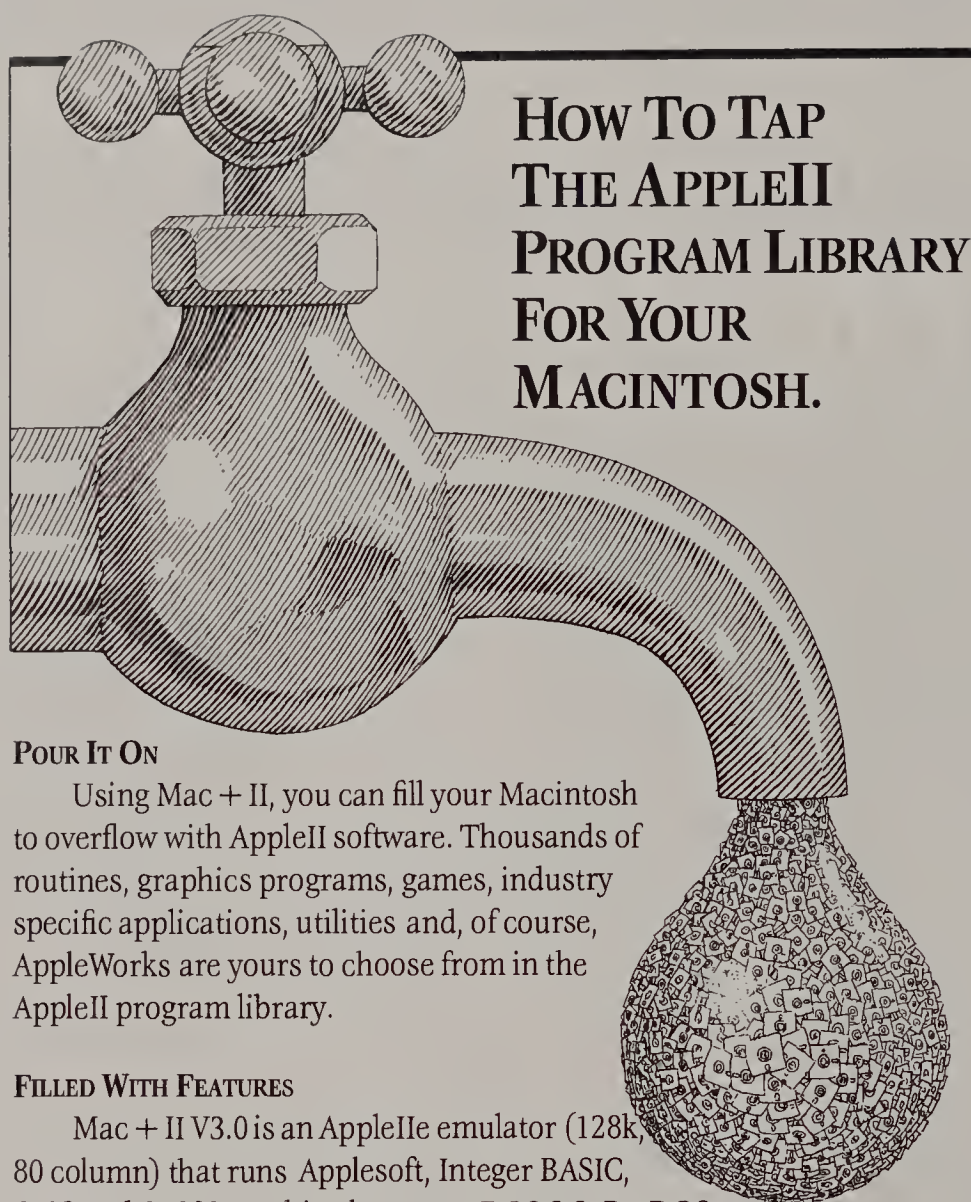
Dennis R. Blanchette

As long as you are not using GetNext-Event, you can print the contents of the Drawing window—or any active window—by pressing Shift-⌘-4. For more details on the program, see Scott Kronick's Macintosh Pascal Illustrated (Addison-Wesley, 1985) or Jonathan D. Simonoff's Introduction to Macintosh Pascal (Hayden, 1985).—Ed.

### Bad Rap for Mind Prober

Nicholas Lavroff's review of *Mind Prober* ["Assess for Success," *Macware Reviews*, November 1985] is more a backlash to the program's 1984 sales hype than a fair look at the package. Lavroff complains that it does no more than "put into a coherent narrative form . . . the information you give it," but I see nothing wrong with that. Nowhere did it promise to be a clairvoyant package. Nor does it call itself mind reader, just *Mind Prober*. And as such, it delivers pretty much what it promises.

(continues on page 54)



## HOW TO TAP THE APPLEII PROGRAM LIBRARY FOR YOUR MACINTOSH.

### POUR IT ON

Using Mac + II, you can fill your Macintosh to overflow with AppleII software. Thousands of routines, graphics programs, games, industry specific applications, utilities and, of course, AppleWorks are yours to choose from in the AppleII program library.

### FILLED WITH FEATURES

Mac + II V3.0 is an AppleIIe emulator (128k, 80 column) that runs Applesoft, Integer BASIC, 6502 and 65C02 machine language, DOS 3.3, ProDOS and PASCAL 1.3 on your 512k Mac without any hardware add-ons. Mac + II also lets you read the Apple UniDisk 3.5 with the Macintosh.

But best of all, Mac + II is 100% compatible with thousands upon thousands of commercial and public domain programs written for the Apple.

### EASY PROGRAM TRANSFER

Moving software to your Mac couldn't be simpler. The communications software included with Mac + II allows transfer of a program and its files through an ImageWriter cable or modem.

### MAKE THE MOST OF YOUR MAC FOR VERY LITTLE

Whatever your interest or need, there is an AppleII program for you. At \$149.95, Mac + II can access this software for your Macintosh at a price that won't tap your wallet dry.

Call today for the Mac + II dealer nearest you or order direct from Meacom (Texas residents add 6.125% tax). Checks, money orders, Visa and MC are accepted (no purchase orders please).

# meacom

P.O. Box 272591 Houston, TX 77277  
(713) 526-5706 Telex: 4945935

Mac + II V1.0 (\$99.95) requires min. 128k Mac and does not run ProDOS or have graphic memory screen. Mac + II V3.0 (\$149.95) requires 512k Mac. Mac + II V3.0 will also emulate an AppleII + or an AppleIIe enhanced. **New For AppleII Owners:** Meacom now offers UniDOS™ (\$25.00) which is DOS 3.3 for the UniDisk 3.5. Apple, Macintosh, AppleWorks, UniDisk 3.5, ImageWriter and ProDOS are trademarks of Apple Computer, Inc. UniDOS is a trademark of Meacom.



Circle 369 on reader service card



# For all of you who thought Dennis Brothers was crazy to give away MacTEP, here's MicroPhone.<sup>TM</sup> The one he's selling.

When the Macintosh first came out, the most powerful personal computer ever built didn't have the brains to make a phone call.

So Dennis Brothers tore down his Mac, figured out how it worked, and wrote Mac's first communications program, MacTEP.

Which he proceeded to give away.

MacTEP was a classic. The first standard in Mac communications.

Now he's created the second: MicroPhone. A program that goes far beyond any communications software currently offered for any computer.

MicroPhone is so sophisticated, it cuts through the worst tangles you encounter when you go on-line. A delight to the experienced. And a saviour for the novice.

## Run on automatic.

When you open MicroPhone to the desktop you'll find a comprehensive collection of icons pre-programmed to access all major information services: CompuServe,<sup>®</sup> Dow Jones News/Retrieval,<sup>®</sup> The Source,<sup>SM</sup> Delphi,<sup>TM</sup> the works.

A few clicks and you're in. With automatic log-in and sign-on.

But that's just the beginning of its ability to automate the whole telecommunications process. For MicroPhone features the most powerful, yet simplest to set up macros ever seen on a program.

## Write your own script.

Dennis gives you two ways to create these macros. The first is to set MicroPhone in the Watch Me,<sup>TM</sup> the recording mode.

The program looks over your shoulder as you conduct a communications session following your keyboard and menu commands.

MicroPhone can remember not only an uninterrupted string of keyboard commands, but also wait-for-prompt conditions. In fact, virtually any series, no matter how long or complex.

The entire sequence is saved. To be invoked at any time with a single key command.

The second way to generate macros is through MicroPhone's unique "Script"



window. Open it and you'll discover an extensive set of functions which can be called up and linked with a series of mouse clicks. The resulting macro is extremely powerful. The method is Mac-simple.

Using Watch Me or the Script window, or a combination of both, you can automate log-ons, file transfers and unattended operations. And navigate back into the farthest reaches of any database with a single stroke.

## Make files fly.

Sending and receiving files is faster and easier with MicroPhone, too. Using XMODEM protocols and MacBinary, MicroPhone transmits or receives anything you can create on a Macintosh. Including MacPaint documents, text, spreadsheets, charts, database tables, or programs.

MicroPhone allows you to scroll back and forth at high speed to review your session. Then you can select any portion of your session, print it, save it to a file, or copy it to the Clipboard for use by other Macintosh programs.

MicroPhone also features an editor desk accessory for composing text in mid-session using familiar Macintosh editing techniques.

But enough talk. See for yourself what Dennis Brothers has done now to advance the cause of telecommunications. Just take any major credit card in hand and call us toll free to place your order.

Dennis isn't giving it away this time. But at **\$74.95**, almost.



### The traditional clip-out coupon. With an untraditional money-back guarantee.

You know how to telecommunicate the hard way. Now do it the easy way. Call 24 hours toll free. Outside California, 800-DENNIS-7. Within California, 800-DENNIS-8. In Canada, 800-DENNIS-9. Or send a check, money order or credit card number for \$\_\_\_\_\_ for \_\_\_\_\_ copies of Dennis Brothers' MicroPhone @ \$74.95 each.

In USA and Canada add US \$5.00 for postage and handling per product ordered. All other countries add US \$10.00. In California add 6% (\$4.50) sales tax. ALL FOREIGN ORDERS: please make payment by bank draft, payable in US dollars, drawn on a US bank. No C.O.D. or Purchase Orders. If you are not 100% happy, return MicroPhone within 30 days for a full refund.

☐ VISA ☐ MASTERCARD ☐ CHECK ☐ MONEY ORDER

CREDIT CARD # \_\_\_\_\_ EXPIRES \_\_\_\_\_

SEND TO: NAME \_\_\_\_\_

SHIPPING ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Send to: SOFTWARE VENTURES, DEPARTMENT A, 2907 Claremont Avenue, Suite 220, Berkeley, CA 94705

#### Let's get technical box.

*Runs in terminal emulation mode at speeds up to 57.6K Baud. Emulates DEC<sup>™</sup> VT52,<sup>™</sup> VT100<sup>™</sup> and TTY type terminals. Supports TEXT (ASCII) and XMODEM (Christensen) protocols; send and receive. Supports MacBinary. Runs on 128K and 512K Macintosh. LaserWriter compatible. Includes Switcher for use with other Macintosh programs. Compatible with Hayes, Apple and other leading modems. Built-in full text editor licensed from Dreams of the Phoenix Inc. Documentation by Neil Shapiro.*

MicroPhone and Watch Me are trademarks of Software Ventures Corporation. MacTEP is a trademark of Brothers Associates. Macintosh is a trademark licensed to Apple Computer, Inc. LaserWriter and Switcher are trademarks of Apple Computer, Inc. CompuServe is a registered trademark of CompuServe Corp. Dow Jones News/Retrieval is a registered trademark of Dow Jones & Company, Inc. The Source is a service mark of Source Telecomputing Corp., a subsidiary of The Readers Digest Association, Inc. Delphi is a trademark of General Videotex Corp. DEC, VT52 and VT100 are trademarks of Digital Equipment Corporation © 1985 Software Ventures Corporation





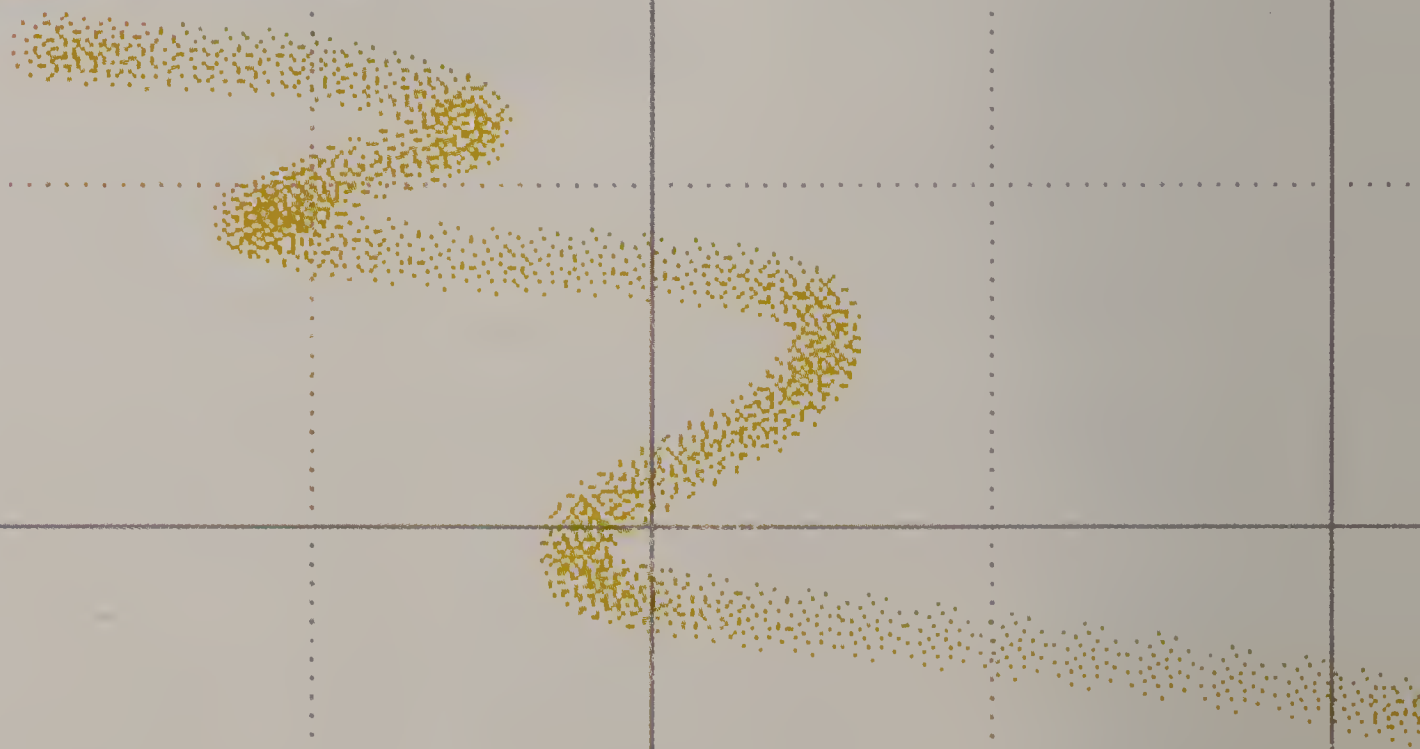
# Unleash Your Fingertip

Let's get right to the point:  
the computer for the rest of  
us can bring out the best  
in us.

All it takes is your Mac,  
your imagination, and Mac-  
world as your guide. And, of  
course, the tip of your finger.

Right now, unleash your  
fingertip and remove the  
postpaid card facing this  
page. Complete. Mail.  
Compute!

**MACWORLD**  
*The Macintosh Magazine*





Save  
\$23.40  
off the  
~~\$47.40~~  
cover price

Order Now to Take  
Advantage of This  
Limited Time Offer!

VISA and MasterCard  
Accepted!

Call TOLL FREE:  
800/972-3100

(in Nebraska  
402/895-7284)

Subscribe  
Now

YES! Please send me *Macworld*, the Macintosh Magazine

☐ \$24 for 1 year (12 monthly issues)

SAVE EVEN MORE!

☐ \$46 for 2 years (24 issues)

☐ Payment enclosed

☐ Bill me later

Name

Company

Address

City, State, Zip

Please allow 6 to 8 weeks for delivery of your first issue. Offer  
good in U.S. only. Offer expires December 31, 1986.

4AZA3

MACWORLD

Subscribe  
Now

YES! Please send me *Macworld*, the Macintosh Magazine

☐ \$24 for 1 year (12 monthly issues)

SAVE EVEN MORE!

☐ \$46 for 2 years (24 issues)

☐ Payment enclosed

☐ Bill me later

Name

Company

Address

City, State, Zip

Please allow 6 to 8 weeks for delivery of your first issue. Offer  
good in U.S. only. Offer expires December 31, 1986.

4AZA3

MACWORLD





NO POSTAGE  
NECESSARY  
IF MAILED IN  
UNITED STATES



**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 1262 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Macworld**  
**Subscription Department**  
**P.O. Box 51666**  
**Boulder, Colorado 80321-1666**



NO POSTAGE  
NECESSARY  
IF MAILED IN  
UNITED STATES



**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 1262 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Macworld**  
**Subscription Department**  
**P.O. Box 51666**  
**Boulder, Colorado 80321-1666**





# Ergotron<sup>®</sup> Means Productivity



## MACTILT<sup>®</sup>

Thousands of enthusiastic Mactilt users can attest to its ability to make the Macintosh the most user friendly computer ever built. Improved screen visibility and operator comfort, less neck, back and eye strain can improve productivity 10, 15, up to 25%.

- Raises Macintosh 4"
- Tilts 30°, Rotates 360° with ease
- Secure mounting, easy removal
- Disk drive mounting bracket
- Cable Anchor
- Rugged Construction
- Mactilt for Hyperdrive
- Mactilt for MacCharlie
- Dramatic increase in usable desk space
- Able to lock tilt-angle



## MACBUFFER<sup>®</sup>

The new Macbuffer by Ergotron is a hardware system designed to dramatically reduce wait times for Macintosh print functions. Macbuffer keeps the printer busy releasing the Mac for more important tasks. As a result, Operator and Macintosh productivity skyrocket. Macbuffer can be configured to handle your most demanding print storage requirements. Its dual inputs allow two Macs to share one Imagewriter<sup>®</sup> for even greater savings.

- Print wait times reduced 50-90%
- Two Macs can share one Imagewriter
- Compatible with existing Macintosh software
- 256K, 512K, and 1 Megabyte models
- Comes complete with all cables, ready for immediate installation
- Improves workstation productivity up to 400%



## ADDITIONAL PRODUCTS

To add to the utility of your Macintosh<sup>®</sup> installation Ergotron offers a wide variety of add-on accessories and product enhancements to make your Macintosh more reliable and convenient to use.

- Nylon Cover – For Macintosh, Drive, Keyboard and Imagewriter
- Macstand<sup>™</sup> – Holds Macintosh and External Drive as single unit
- Apple Hard Disk 20<sup>®</sup> mounting adaptor for Mactilt
- Keyboard mounting bracket for Mactilt
- Security system for Macintosh/Mactilt
- Diskbook – Unique disk storage
- Extension cables for Macbuffer

**ERGOTRON** inc

P.O. Box 17013 • Mpls., MN 55417 • (612) 854-9116; 800/328-9839

Ergotron and Mactilt and Macbuffer are registered trademarks of Ergotron Inc. Apple Hard Disk 20, Macintosh and Imagewriter are registered trademarks of Apple Computer Inc.

Circle 83 on reader service card



# COPY II MAC™

- **BACKS UP PROTECTED SOFTWARE!**

Copy II Mac does more than just sector copy. Its bit copy program has the built-in power and flexibility to handle most protection schemes\* *automatically!*

- **RUNS PROTECTED SOFTWARE FROM YOUR HARD DISK!**

Copy II Mac makes using your hard disk as convenient as it should be. No longer will you have to use the 3½ inch disk with some of the most popular business software - *call for current list.*

- **INCLUDES POWERFUL UTILITIES!**

(Can even repair damaged disks!)

System Requirements: 128K Macintosh, 1 drive.

(2 drives, 512K and hard disks fully supported.)

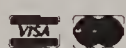
GIVE YOUR MAC MORE MUSCLE - USE **COPY II MAC!**

**CENTRAL POINT  
Software, Inc.**

9700 SW Capitol Hwy., #100  
Portland, OR 97219

**503/244-5782**

M-F, 8-5:30, W. Coast Time



CHECK, COD WELCOME  
(Prepayment Required)

**\$39.95**

plus \$3 s/h (\$8 overseas)

\*We update Copy II Mac as often as needed to handle new protections; you as a registered owner may update at any time at a reduced price.

Backup utilities also available for the IBM, Apple and Commodore 64!

*These products are provided for the purpose of enabling you to make archival copies only*

Circle 175 on reader service card

## Letters

(continued from page 50)

Lavroff even admits that the reports “seem to be remarkably perceptive.” I think so, too, and the reports are a useful means of gathering one’s thoughts about another individual.

In any event, *Mind Prober* has a venerable heritage in the much-used personality inventories of the forties and fifties. They are still in wide use today as systems that define personality traits on the basis of combinations of answers to a specific set of questions. Moreover, they can be described as an early kind of expert system—which is more than one can say about Lavroff’s method of reviewing.

*Elton Braude*

*Woodside, New York*

### With Apologies to His Majesty

We were surprised to see the Canary Islands mentioned as a country in “The Macintosh Passport” [*Macworld*, November 1985]. The Canary Islands have been part of Spain since the fifteenth century.

Otherwise we found the article interesting and its information quite useful.

*Eduardo Nolla and*

*José A. Rodriguez-Moya*

*New Haven, Connecticut*

### T-Shirt for the Mind

In *Macworld*, October 1985, you pictured a T-shirt with the *Wheels for the Mind* logo on it. How can I obtain one?

*Christopher Talvacchio*

*Philadelphia, Pennsylvania*

*The T-shirt costs \$10.50 postpaid from the Apple Collection, P.O. Box T, Gilroy, CA 95021-2249. Call 800/345-2888 8 a.m. to 5 p.m. weekdays for a copy of the Apple Collection Catalog or to order the shirt by phone using Visa, MasterCard, or American Express credit cards.—Ed.*

### Correction

The figures for the review of *Personal Accountant* (*Macware Reviews*, September 1985) were not generated by the author. We apologize if anyone found the material inappropriate.—Ed.

*Mail your letters to Letters, Macworld, 555 De Haro St., San Francisco, CA 94107, or send them electronically to CompuServe 70370,702 or The Source BCW440. Published letters become the property of Macworld. □*

## Moving?

Be sure your Macworld subscription goes with you!

Use the coupon here for your convenience to change the mailing address on your Macworld subscription.

Be sure to include the mailing label from a recent issue if possible or, if a label is not available, please send us your complete former address including the zip code. Allow 6–8 weeks for this change to be effective.

SAVE TIME. Call our toll-free service number for immediate service: 800-247-5470 (In Iowa 800-532-1272).

New address:

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Former address:

Attach  
mailing  
label  
here ►

Send coupon and mailing label to Macworld Subscription Dept., P.O. Box 20400, Bergenfield, NJ 07621



# It's Taking Off!



Our first ad for the View Control System™ did more than raise a few eyebrows. We set a record for *Macworld* reader response, pulled in lots of orders, and inspired a flood of callers to ask, "does that crazy looking headset really work?" Read what users are saying about it.

Users agree. It works. The View Control System from Personics moves the cursor where you look on the screen. It's much faster than a mouse or trackball and doesn't take up space on your desk. Why not try the VCS for 30 days and see for yourself? Join us for a test flight. There's absolutely no risk.

## Use Your Head!

Now you don't have to reach for the mouse to move the cursor. The VCS gives you swift, precise cursor control with natural movement of your head. Look right and the cursor moves right. Look down and left and the cursor instantly follows. Thanks to a remarkable algorithm for head-to-cursor translation, no broad motion is required, just a few degrees of rotation. Before long, using the VCS will feel like a natural extension of vision.

The VCS works with any 128K or 512K Mac.

No hardware or software modifications are required. A button pad clips on your keyboard right below the space bar so you can *click* or *drag* with the touch of your thumb. If you want, connect your mouse or trackball along with the VCS and use them interchangeably.

Just \$199.00  
and Easy to Order

We sell factory direct so ordering couldn't be easier. Call us toll-free. If you're ready to order, please have your major credit card in hand when you call. University and corporate purchase orders accepted.

CALL TOLL FREE ..... 800-445-3311

In Massachusetts ..... 800-447-1196

When your VCS arrives, try it for 30 days. If you're not completely satisfied, return it for a full refund. Get set for your test flight. The VCS is taking off!

## Product Review

*It's all quite interesting and sexy in a technological way, but how well does it work? I have used the VCS for a week. The first day was something of a strain, as I found myself overshooting screen targets and making exaggerated head motions. After a few days, using the system became second nature. My thumbs fell readily on the buttons below the space bar, and the cursor always seemed to be just where I was looking. After a week, you'll wonder how you managed without it. On the whole, the View Control System represents a real advantage over the mouse for many Mac tasks.*

ICON—Magazine of the Assoc. of Apple 32 Users.

## Customer Letters

*I just received my VCS and am more than delighted with its performance. I couldn't believe that it would be able to work one pixel at a time but it does, and that with less than an hour's use. It's the best thing yet that I have seen for controlling the Macintosh.*

*My daughter and I are certainly enjoying our "flying mouse." Not only is it terribly ingenious, it really works very smoothly and with fine sensitivity. Congratulations on an innovative advance.*

*I am a university professor and I do a substantial amount of writing. I just finished a monograph of about 64 single-spaced pages. I used the VCS for the entire project and it performed beautifully. If there were a market for my mouse, I might sell it.*

# Join us for a test flight.



Circle 85 on reader service card

Personics™ Corporation  
2352 Main Street, Building 2, Concord, MA 01742  
(617) 897-1575



# MacSpell+™

## Outfront & Pulling Away

MacSpell+ has become the most popular Spelling Checker for the Mac since Creighton Development introduced it on September 16, 1985.

We know why, too.

Because MacSpell+ is simply the best. But don't take our word for it.

### Ask our users.\*

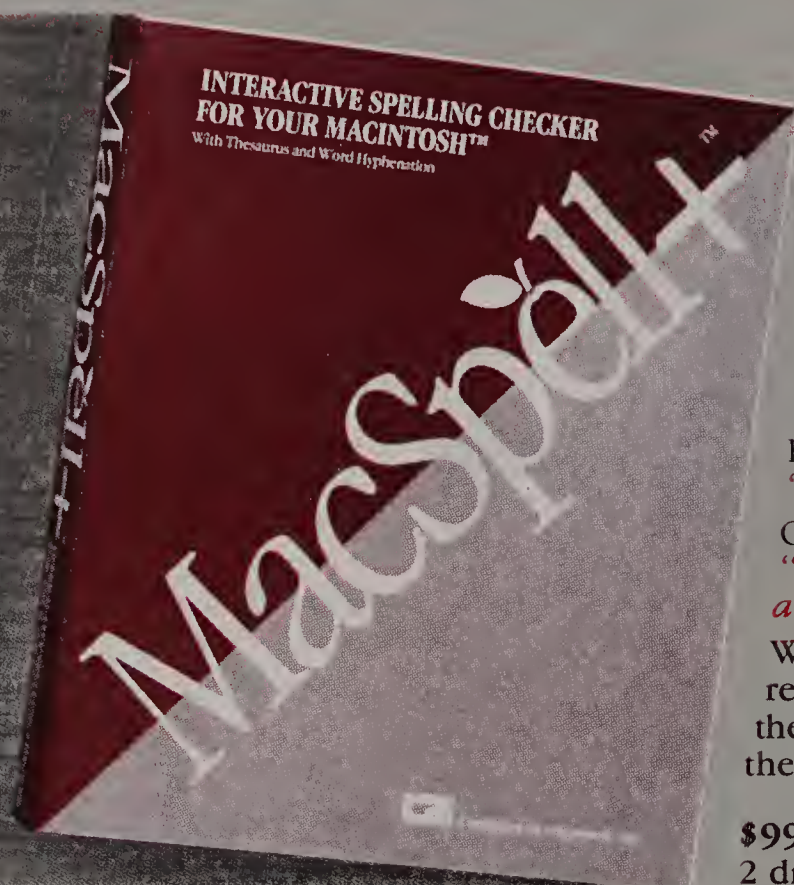
A.S., Pine Brook, New Jersey

*"A dream come true. MacSpell+ is my Savior!"*

K.R., La Honda, California  
*"Simply amazed!"*

J.C., Palm Springs, California

*"Greatest thing since the dictionary!!"*



B.P., Salt Lake City, Utah  
*"Superb program. Far superior to Hayden Speller."*

D.J., Santa Clara, California  
*"Great work! Much better than MacSpell Right!"*

D.G., Wilmington, Delaware  
*"Works like a charm."*

R.C., Northport, New York  
*"A program of impeccable design."*

C.H., La Jolla, California  
*"Chose MacSpell+ after comparing and 'test driving' others."*

We've received countless similar responses from the people who know, the people who have already compared, the people who use MacSpell+.

**\$99.00 Retail** (Requires 512K Mac with 2 drives. XL compatible)

### Compare for yourself:

Feature	MacSpell+™	Hayden	Spell•Right™	Right•Word3.0™	Right•WordXL™
Dictionary Size (Number of Words)	<b>75,000</b>	<b>20,000</b>	<b>44,000</b>	<b>44,000</b>	<b>200,000</b>
Interactive with Word Processor	<b>YES</b>	NO	YES	NO	NO
Thesaurus	<b>YES</b>	NO	YES	NO	NO
Word Hyphenation	<b>YES</b>	NO	NO	NO	NO
Supports Microsoft Word™	<b>YES</b>	YES	<b>NO</b>	YES	YES
Supports MacWrite 4.5™	<b>YES</b>	YES	YES	YES	YES
Start Spell Check in Middle of Document	<b>YES</b>	NO	YES	NO	NO
"Undo" Feature Functional	<b>YES</b>	NO	NO	NO	NO
Copy Protected	<b>NO</b>	YES	NO	NO	NO
Retail Price	<b>\$99</b>	\$79	\$89	\$89	Incl.

### SPEED TEST RESULTS:\*

Document: Microsoft Word™ "MEMO"	<b>2:10</b>	<b>4:13</b>	Not Supported	<b>5:36</b>	<b>8:19</b>
Document: Hayden "Demo"	<b>4:29</b>	<b>6:35</b>	<b>4:01</b>	—	—
Document: Right Word Demo	<b>1:33</b>	—	—	<b>4:40</b>	<b>5:18</b>

\*Specific test procedures available from Creighton Development, Inc.

**Prove it to yourself—See your local dealer.**

**CDI CREIGHTON**  
Development, Inc.

16 Hughes Street, Suite C-106 • Irvine, CA 92718 • (714) 472-0488

\*Actual letters on file at CDI.

™—Trademarks of Creighton Development, Microsoft Corp., Assimilation Process and Hayden Publishing.

Circle 437 on reader service card



# Macworld View

*New Apple products, Shakespeare on the Mac,  
French for beginners, and more*

*Edited by Herschel Schmedick*

## Macintosh Plus

1986 is the year of the megabyte Macintosh. Apple's entry in the megabyte market is the Macintosh Plus, with an 800K built-in floppy disk drive, twice the amount of ROM containing new system code, a high-speed expansion port, and a megabyte of memory—expandable to 4 megabytes when 1-megabit RAM chips become available. The Macintosh Plus comes with a keyboard containing a built-in numeric keypad and cursor control keys.

New on the Macintosh Plus is a Small Computer Systems Interface (SCSI), a port where you can attach up to seven high-speed devices such as hard and optical disks, digitizers, and streaming tape drives. The SCSI (pronounced "scuzzy") port transfers information at 320K per second—approximately six times faster than the external drive port. Companies developing products that attach to the Mac's SCSI port include AST Research, Iomega, and Tecmar. The addition of a SCSI port allows manufacturers to easily adapt SCSI devices that were designed for other computers to the Macintosh. To make

*(continues on page 59)*



# Introducing the Most Powerful Business Software Ever!

FOR YOUR IBM • APPLE • MAC • TRS-80 • KAYPRO • COMMODORE • MSDOS OR CP/M COMPUTER\*

OVER  
**100,000**  
SOLD



## The VERSABUSINESS™ Series

Each VERSABUSINESS module can be purchased and used independently, or can be linked in any combination to form a complete, coordinated business system.

### VERSARECEIVABLES™ \$99.95

VERSARECEIVABLES™ is a complete menu-driven accounts receivable, invoicing, and monthly statement-generating system. It keeps track of all information related to who owes you or your company money, and can provide automatic billing for past due accounts. VERSARECEIVABLES™ prints all necessary statements, invoices, and summary reports and can be linked with VERSALEDGER II™ and VERSAINVENTORY™.

### VERSAPAYABLES™ \$99.95

VERSAPAYABLES™ is designed to keep track of current and aged payables, keeping you in touch with all information regarding how much money your company owes, and to whom. VERSAPAYABLES™ maintains a complete record on each vendor, prints checks, check registers, vouchers, transaction reports, aged payables reports, vendor reports, and more. With VERSAPAYABLES™, you can even let your computer automatically select which vouchers are to be paid.

### VERSAPAYROLL™ \$99.95

VERSAPAYROLL™ is a powerful and sophisticated, but easy to use payroll system that keeps track of all government-required payroll information. Complete employee records are maintained, and all necessary payroll calculations are performed automatically, with totals displayed on screen for operator approval. A payroll can be run totally, automatically, or the operator can intervene to prevent a check from being printed, or to alter information on it. If desired, totals may be posted to the VERSALEDGER II™ system.

### VERSAINVENTORY™ \$99.95

VERSAINVENTORY™ is a complete inventory control system that gives you instant access to data on any item. VERSAINVENTORY™ keeps track of all information related to what items are in stock, out of stock, on backorder, etc., stores sales and pricing data, alerts you when an item falls below a preset reorder point, and allows you to enter and print invoices directly or to link with the VERSARECEIVABLES™ system. VERSAINVENTORY™ prints all needed inventory listings, reports of items below reorder point, inventory value reports, period and year to date sales reports, price lists, inventory checklists, etc.

### VERSALEDGER II™ \$149.95

VERSALEDGER II™ is a complete accounting system that grows as your business grows. VERSALEDGER II™ can be used as a simple personal checkbook register, expanded to a small business bookkeeping system or developed into a large corporate general ledger system **without any additional software.**

- VERSALEDGER II™ gives you almost unlimited storage capacity (300 to 10,000 entries per month, depending on the system),
- stores all check and general ledger information forever,
- prints tractor-feed checks,
- handles multiple checkbooks and general ledgers,
- prints 17 customized accounting reports including check registers, balance sheets, income statements, transaction reports, account listings, etc.

VERSALEDGER II™ comes with a professionally-written 160 page manual designed for first-time users. The VERSALEDGER II™ manual will help you become quickly familiar with VERSALEDGER II™, using complete sample data files supplied on diskette and more than 50 pages of sample printouts.

### SATISFACTION GUARANTEED!

Every VERSABUSINESS™ module is guaranteed to outperform all other competitive systems, and at a fraction of their cost. If you are not satisfied with any VERSABUSINESS™ module, you may return it within 30 days for a refund. Manuals for any VERSABUSINESS™ module may be purchased for \$25 each, credited toward a later purchase of that module. All CP/M-based Computers must be equipped with Microsoft BASIC (MBASIC or BASIC-80)

#### To Order:

Write or call Toll-free (800) 431-2818  
(N.Y.S. residents call 914-425-1535)

- \* add \$3 for shipping in UPS areas
- \* add \$4 for C.O.D. or non-UPS areas

- \* add \$5 to CANADA or MEXICO
- \* add proper postage elsewhere

DEALER INQUIRIES WELCOME

All prices and specifications subject to change / Delivery subject to availability.

# COMPUTRONICS

50 N. PASCACK ROAD, SPRING VALLEY, N.Y. 10977

Circle 231 on reader service card



**Macintosh Plus (continued)**

room for the SCSI's wider DB-25 connector, Apple fitted both the printer and modem ports with mini 8-pin connectors. An adapter cable with a DB-9 connector on one end and a mini 8-pin connector on the other is available from Apple dealers for under \$20.

The built-in 800K disk drive reportedly reads information from double-sided disks up to 40 percent faster than the original disk drive. The improved

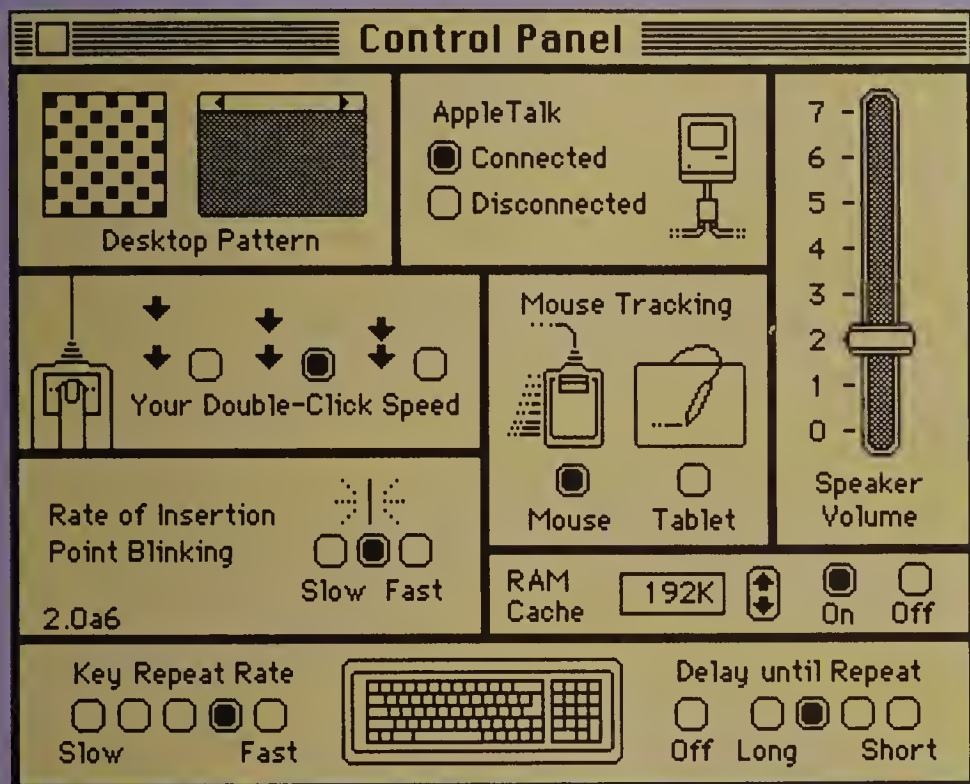
ROM. The Mac Plus version of HFS lets you use the hierarchical file system with double-sided floppy disks as well as with the HD 20. Having HFS in ROM also means that you can start the Macintosh Plus directly from the hard disk.

Additional changes to the system code in the ROM include a new version of QuickDraw that is about 30 percent faster, the AppleTalk drivers, the floating-point calculation routines (Standard Apple Numerics Environment, or SANE),

window by clicking on the zoom box in the window's upper-right corner. An expanded window occupies most of the desktop, leaving enough room on the right for disk icons.

The new Control Panel adds controls for a RAM cache (see "Control Panel Plus"). The cache speeds up programs by saving often-used portions of a file in RAM. Key Caps now lets you select different fonts from the Font menu so you can locate special characters from within an application. A new desk accessory, Chooser, lets you assign devices such as printers and modems to any of the Mac's three ports (printer, modem, and SCSI).

The Macintosh Plus sells for \$2599, while the price of the 512K drops to \$1999. Owners of 128K and 512K Macs can upgrade in stages. The disk drive kit, which contains one 800K double-sided drive and the 128K ROM, goes for \$299, including dealer installation. The logic board kit contains a new digital board with 1 megabyte of memory and the SCSI port. The logic board upgrade includes a redesigned Macintosh rear cabinet, to accommodate the new connectors, and one adapter cable. The cost of adding both upgrade kits to a 512K Mac is \$898. Macintosh owners who installed non-Apple memory upgrades can purchase the disk upgrade kit for \$299 but must pay the 128K price for the logic board kit. Because the new technology used to mount the RAM chips cuts down the free space over the board, HyperDrive owners must have the upgrade installed by a HyperDrive dealer. The Macintosh Plus keyboard sells separately for \$129, and an external 800K disk drive sells for \$499.—*David Ushijima*

**Control Panel Plus**

The new Control Panel can connect AppleTalk and a RAM cache of up to 3 megabytes.

speed results partly from a faster head-positioning mechanism and partly from the technique of writing sequential tracks alternately on the two disk surfaces. The new drive can read both double-sided and single-sided 3½-inch disks, so existing files are not made obsolete.

To control the new floppy disk drive, the expanded 128K ROM contains the double-sided disk driver. The Hierarchical File System (HFS), previously released on floppy disk with Apple's Hard Disk 20, has also been incorporated into the

and the drivers for the SCSI expansion port. Although Apple has designed the Mac Plus to be upwardly compatible with previous Macs, the extensive changes to the ROM could mean problems for some existing application programs. However, according to Ed Colby, product manager for the Macintosh Plus, applications that follow the *Inside Macintosh* guidelines should have no problems running on the Mac Plus.

The startup disk for the Macintosh Plus contains a new System file and Finder 5.1, to accommodate the 128K ROM, as well as the Installer utility, which lets you update old disks for use with the Mac Plus. Finder 5.1 lets you expand any

## LaserWriter Plus and New Adobe Fonts



Apple has released an enhanced version of the LaserWriter, the LaserWriter Plus, that features new typefaces in ROM. The additional fonts give the LaserWriter Plus a more well rounded selection of typefaces for desktop publishing projects. Besides the original Times Roman, Helvetica, Courier, and Symbol fonts, the new assortment contains mem-

(continues on page 61)

ITC American Typewriter® Medium  
ITC American Typewriter Bold  
ITC MACHINE

ITC Avant Garde Gothic® Book  
ITC Avant Garde Gothic Book Oblique  
ITC Avant Garde Gothic Demi  
ITC Avant Garde Gothic Demi Oblique

ITC Benguiat® Book  
ITC Benguiat Bold  
ITC Friz Quadrata  
ITC Friz Quadrata Bold

ITC Bookman® Light  
ITC Bookman Light Italic  
ITC Bookman Demi  
ITC Bookman Demi Italic

New Century Schoolbook Roman  
New Century Schoolbook Italic  
New Century Schoolbook Bold  
New Century Schoolbook Bold Italic

ITC Garamond® Light  
ITC Garamond Light Italic  
ITC Garamond Bold  
ITC Garamond Bold Italic

Glypha® Roman  
Glypha Oblique  
Glypha Bold  
Glypha Bold Oblique

ITC Lubalin Graph® Book  
ITC Lubalin Graph Book Oblique  
ITC Lubalin Graph Demi  
ITC Lubalin Graph Demi Oblique

Optima® Roman  
Optima Oblique  
Optima Bold  
Optima Bold Oblique

Palatino® Roman  
Palatino Italic  
Palatino Bold  
Palatino Bold Italic

ITC Souvenir® Light  
ITC Souvenir Light Italic  
ITC Souvenir Demi  
ITC Souvenir Demi Italic

ITC Zapf Chancery® Medium Italic  
ITC Zapf Dingbats \* → • ★ ♡





***FASTER...MORE POWERFUL...QUIETER***

**DOUBLE SIDED 800K  
3.5" EXTERNAL DRIVE**

**100% Macintosh™ Compatible**

*Featuring More for Less*

**AUTO EJECT** Not Manual  
**ONE YEAR WARRANTY**

Quality COPAL Drive Mechanism  
Reads Double & Single Sided Disks

*Complete and Ready to Use*

**800-325-1895**

In Connecticut call 203-488-8993

 **MICROTECH**  
PERIPHERALS

A division of Microtech International Inc.

29 Business Park Drive/Branford, CT USA 06405

Dealer Inquiries call **800-626-4276**

**Circle 470 on reader service card**

Macintosh™ is a trademark of Apple Computer, Inc.



### LaserWriter Plus and New Adobe Fonts (continued)

bers of the ITC Avant Garde, ITC Bookman, New Century Schoolbook, and Palatino families, as well as ITC Zapf Chancery Medium Italic, Helvetica Narrow, and ITC Zapf Dingbats. (The ITC fonts are licensed from the International Typeface Corporation, the others from Allied Corporation.) Most of the faces include light, bold, light italic, and bold italic variations. Screen fonts for the new typefaces are available to install in the Macintosh System file.

The LaserWriter Plus is priced at \$6798. An upgrade from LaserWriter to LaserWriter Plus—which requires substituting the new ROM chip—is \$799 from authorized Apple dealers.

Other laser printer news: Adobe Systems is releasing 45 new typefaces that can be downloaded from a Macintosh into the LaserWriter's memory. The typefaces include members of the ITC Garamond, Glypha, Optima, ITC Souvenir, ITC Benguiat, ITC Friz Quad-

rata, ITC American Typewriter, and ITC Lubalin Graph families, as well as ITC Machine. Adobe is also offering the LaserWriter Plus typefaces separately for people who have LaserWriters and don't want the chip upgrade. Adobe's typeface-only upgrade comes with a utility for downloading the typefaces to the LaserWriter or another PostScript printer, and with matching screen fonts for the Macintosh. Adobe Systems' typefaces are licensed from the Allied Corporation and the International Typeface Corporation. You can store two to six faces in the LaserWriter or LaserWriter Plus memory, depending on the size of the font.

Adobe's laser typefaces are also available in 5¼-inch disk formats for IBM-compatible personal computers. The cost for a family of four typefaces, such as ITC Garamond light, light italic, bold, and bold italic, is \$185. Adobe plans to release 75 new typefaces this year. For more information, check with your local Apple dealer or Adobe Systems (1870 Embarcadero Rd., Palo Alto, CA 94303, 415/852-0314).—Daniel Farber

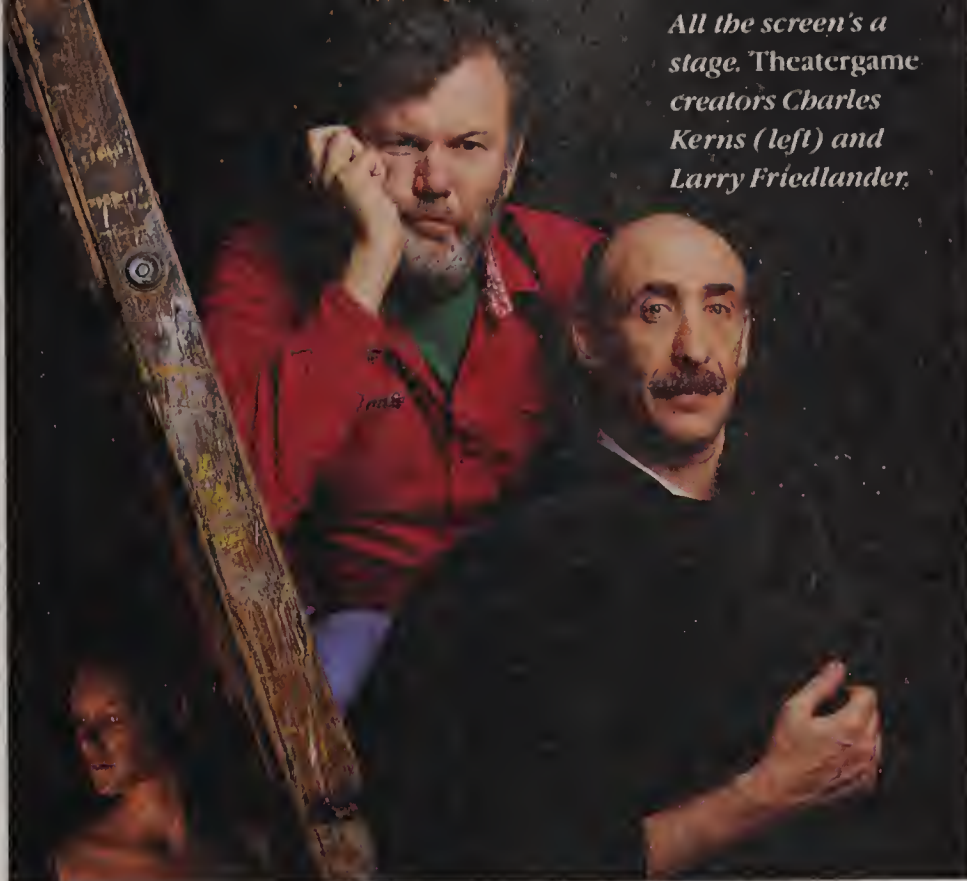
## Double Helix

Odesta Corporation, creator of the innovative Macintosh database *Helix*, has developed an enhanced version of the program, called *Double Helix*. The new program lets you build custom pull-down menus within a database and allows up to three levels of security. In addition, *Double Helix* runs faster, adds a Clean Up command like the Finder's and more flexible data-transfer capabilities, and lets you create lists within lists.

The program has two modes—a designer mode for

creating a database application, and a user mode for working with the data. *Double Helix* can be purchased for \$180 by registered *Helix* owners.

With another new program from Odesta, *RunTime Helix*, developers can build products tailored for specific applications that may be used in-house or remarketed as stand-alone applications. The core of the application is created with *Double Helix*, and the run-time generator creates the stand-alone version of the application.



All the screen's a stage. Theatergame creators Charles Kerns (left) and Larry Friedlander.

## The Theater Game



"To be or not to be" on a Macintosh, that is the question at Stanford University these days. Students in the university's introductory humanities and theater arts courses are using an intriguing piece of courseware called the *Theatergame* that lets them see the Prince of Denmark in a new light—on the screen of their Macintoshes.

Larry Friedlander, a Shakespearean actor and professor of theater in the university's communications department, devised the program in conjunction with programmer Charles Kerns of the school's Faculty Author Development program. "The idea was to provide a simulation of a theatrical directing experience," explains Kerns.

Friedlander and Kerns produced a quasi-animation program that allows students to learn scene blocking and stage movements without having to work with a troupe of live actors. Instead students manipulate a cast of characters, drawn by an artist with *MacPaint*, on a stage by dragging them around with the mouse. Different types of stages, such as modern and Elizabethan, and their components—curtains, balustrades, geometric shapes, and columns—can be brought on screen from the Set Up the Stage menu. Props are also available from the Set Up the Stage menu, and students can create their own props with *MacPaint* and paste them into *Theatergame* from the Scrapbook. Once the environment is

With the run-time version, the custom application automatically starts up, and the user cannot modify its design. A licensing fee of \$500 allows an application builder to create up to ten vertical applications with *Double Helix*.

Odesta plans to release a multiuser version of *Helix* as well as a version with the capability for remote access to *Helix*. A person could then call the Macintosh from a phone booth via modem, start up *Helix*, and transfer or extract data from the program.—Daniel Farber

(continues on page 63)





# Introducing inTouch

## Communications Task Master from Palantir® Software

### Save What You Want When You Want

With inTouch, any time during a session, you can decide to save something. Even if it's not on the screen, you can go back and get it from the scroll buffer.

### Complete Protocol Support

MacBinary, XModem, and Crosstalk protocols for Mac-to-Mac, Mac-to-Host, Mac-to-IBM PC, or Mac-to-Whatever.

### Electronic Mail - Today's Post Office

Send and receive mail from MCI, EasyLink, Dialcom, and the Company mainframe. Create messages with the built-in memos editor.

### VIDTEX Emulation

Now you can see Compuserve's weather maps, stock price charts, or the FBI's Ten Most Wanted.

### Communications Command Language(CCL)

Automated or unattended operations day or night. Set up a series of commands, and have them all done, one after the other -- all unattended. No problem.

### Onscreen Function Keys

Onscreen programmable function keys allow you to customize your communication needs. Clicking on a key sends text, executes a CCL program, or displays another row of function keys.

### Heralded Documentation

Learn by example from over 40 CCL files. Examples are provided to automate communications with EasyLink, MCI Mail, Dow Jones, Dialcom, Compuserve, and The Source. Creating your own CCL files is easy with inTouch.

## FINANCIAL SERIES

### General Ledger

Complete Double-Entry Accounting. A Chart of Accounts is provided, or create your own. Customize reports. Full financial statements provided.

### Accounts Receivable

Allows Balance Forward, Open item, or a combination of the two. Generates statements and period aging. Flexible sales analysis reports.

### Inventory Control

Control your stock with movement reports, re-order lists, purchase order tracking, and complete inventory item status reports. Full pricing lists too.

## EDUCATIONAL SERIES

### MacType®

Dvorak or QWERTY keyboards. Structured exercises to increase typing speed. Options include metronome, speed & accuracy box, student tracking, and much more.

### MathFlash™

Four-function math flash card system. Timed drills on any combination of adding, subtracting, multiplication, or division. Progress awards, and student tracking.

### WordPlay

Crossword puzzles, from easy to advanced, including diagramless. Play the puzzles included on disk or create your own and print them out.

# PALANTIR®



PALANTIR®  
SOFTWARE

# SOFTWARE



### **The Theater Game (continued)**

designed, students select a cast to bring on stage. For *Hamlet*, a student can work with the prince, Ophelia, the king and queen, and Polonius, moving each character around the screen with the mouse. Each character has a limited number of drawn positions: standing, sitting, lying down, kneeling, and turning around. These positions can be combined with various head movements, all controlled by keys on the numeric keypad, to produce a kind of primitive animation. On-screen character movements made by a student as a scene is blocked out are recorded by the program and can then be played back. The blocking is done in sync with

an audio cassette tape recording of the scene.

*Theatergame* is already being used in advanced directing classes at Stanford, and the creators have plans for high school and grade school versions as well as more advanced systems that will incorporate videodisk libraries of plays, scenes, and drawings or photos of actual theater stages. Furthermore, the university dance department is choreographing new work and recording the choreography of existing dances with a *Theatergame* clone. But the program will hit the campus mainstream when the football team transfers its playbooks to Macintosh disks, something it is planning to do in the next year.

Shakespeare, ballet, and football. Only on the Macintosh. —Jeffrey S. Young

## **Locke-Ober's Cafe**

Boston has a long-standing reputation as a city of culture, refinement, and tradition. Among those traditions are historic landmarks like the Bunker Hill monument, Fanueil Hall, Paul Revere's Old North Church, and Locke-Ober's Cafe. Both before and during his presidency, John Kennedy stopped in to savor Locke-Ober's famous oyster stew when he was in Boston. And in the 1980s little has changed at this bastion of Yankee cuisine—little except the introduction of a Macintosh to the restaurant's kitchen in the heart of downtown Boston.

Geoff Sullivan, Locke-Ober's general manager, welcomed the addition of the Macintosh to his staff. "Even though we have to be careful to avoid spilling chowder on the Mac, I don't know what we would do without it." The computer mainly

keeps food inventory and monitors costs and stock levels.

As part of its charm, Locke-Ober's prints a different menu each day to highlight specials. Until recently, the job of preparing those menus was done by a graphic designer and sent to a typesetting company for printing. Sullivan is now contemplating the purchase of a LaserWriter to do all the graphics

## **HyperDrive 2000 and HyperNet**



The Atheneum House in Cambridge, Massachusetts, is a restored nineteenth century brick building named for Athena, the Greek goddess of wisdom. Inside, in the offices of General Computer Company, the fastest Macintoshes in the world were designed. To expand its product line beyond the HyperDrive, its internal hard disk, General Computer unveiled two new products that may thrust the Mac into new markets.

The HyperDrive 2000 not only adds a 20-megabyte internal hard disk to the Mac but also boosts processing power. A dealer-installed expansion

board adds 1½ megabytes of memory as well as a 68000 microprocessor running at 12 MHz—roughly twice the current Mac's speed. The new 68000 "tells the original 68000 to go to sleep," according to John Ison, General Computer's director of product planning. The new board also contains a 68881 floating-point math coprocessor, a microprocessor with a head for figures. The 68881 intercepts calls to the Mac's built-in arithmetic software and performs the calculations itself roughly four times faster. The two chips enable the Mac to breeze through the complex calculations required by animation and computer-aided design programs.

While most existing programs run on the HyperDrive 2000, General Computer is seeking developers to write software that takes direct advantage of the machine's brawn. The firm representatives believe developers will be so eager to tap the machine's power that they'll produce two versions of their products—one for conventional Macs and one for HyperDrive 2000s. Whether producing a partially incompatible Mac is a wise move is something that even Athena couldn't forecast.

General Computer also announced *HyperNet*, software that turns a HyperDrive into a file server. Macs attach to the HyperDrive-equipped Mac by AppleTalk connectors. Once connected, the Macs can share applications and documents stored on the HyperDrive. —Jim Heid

(continues on page 65)



work for the three restaurants owned by Locke-Ober's proprietors.

Customers may not notice the high-tech changes going on behind the scenes, but the Locke-Ober's management is glad to let a little of the new improve the time-tested ways of the old. —Patrick Rafter





# BETTER SONY THAN SORRY.

The bomb's up. The system's down. You've lost all your data to disk error because you made a very basic human error. You didn't use Sony floppy disks.

Next time, go with the industry standard, the company who invented the 3.5" disk drive system, and a floppy disk that comes 100% certified error free. Sony.

Only Sony 3.5" micro floppy disks contain such error suppressing materials as patented Vivax™ magnetic particles and a high-molecular DDL™ binder system. This protects your micro floppy disk, and the information on it, for its lifetime; and assures data retrieval in the order you choose. Guaranteed.

So use Sony 3.5" or 5.25" floppy disks, and avoid disk error. If you use somebody else's, you could be sorry.

**SONY**  
THE ONE AND ONLY®



© 1986 Sony Corporation of America. Sony is a registered trademark of the Sony Corporation. Vivax and DDL are trademarks of the Sony Corporation. "The One and Only" is a registered trademark of Sony Corporation of America.

Circle 255 on reader service card



## I Ching

For thousands of years the I Ching, the Chinese Book of Changes, has been used to understand the present and predict the future. The book dates back to the Chou dynasty—1150 to 249 B.C. In his old age Confucius studied it intensively and added a commentary to the hexagrams on which the I Ching is founded.

*The Electric Dragon* (Baen Software, Berserker Works Ltd., P.O. Box 14268, Albuquerque, NM 87191) is an electronic version of the ancient book. The package bears the presumptuous slogan, "At last not just data, but wisdom from a computer." Based on the author-

itative Wilhelm/Baynes translation (Princeton University Press, 1961) of the I Ching, *The Electric Dragon* dispenses with throwing yarrow stalks or coins to create the hexagrams. Instead you press any Macintosh key to build the six lines of the hexagram. You can save readings, together with comments you add, and browse through the judgments and commentaries of the 64 hexagrams. The program, which sells for \$34.95, requires a 512K Macintosh, an external drive, and Microsoft BASIC 2.0.

—Daniel Farber

## Le Conjugueur



If you are uncertain whether *sommes* is the correct first-person plural present form of the verb *être*, *Le conjugueur*, from Les éditions Ad lib, in Québec (418/529-9676), is a desk accessory that conjugates French verbs. For example, if you're studying French and aren't sure of the correct form or spelling of a verb, you can select *Le conjugueur* from the Apple menu. When the *Le conjugueur* window is displayed, you type the verb's infinitive form and then click on the desired person and tense. The proper conjugation is automatically displayed. The program accepts most common irregular verbs.

The menus, help screens, and documentation are in French, so you have to keep a French dictionary handy if you've just started learning the language. For the most part, however, you can get by without much help. *Le conjugueur*

sells for \$49.95 (\$69.95 in Canada) and takes up about 59K. You need an external drive or a hard disk to avoid juggling disks. For French language students or writers who need to dust off their *Français*, *Le conjugueur* is a painless way to *améliorer* your grammar.

—Daniel Farber

*Many of you have probably had strange or enlightening encounters with the Macintosh. Or perhaps you've heard of someone else's unique application of the Mac. Your contributions are welcome. Macworld pays up to \$50 for each item published. All published submissions become the property of Macworld. Send your contributions to Macworld View, Macworld, 555 De Haro St., San Francisco, CA 94107. I look forward to hearing from you. □*

## Macworld Best-Seller Software

This month	Business	Last month	Months on chart
1	Jazz, Lotus Development	1	4
2	Microsoft Word, Microsoft	2	8
3	Microsoft File, Microsoft	5	7
4	Microsoft Multiplan, Microsoft	3	8
5	MacDraw, Apple Computer	4	5
6	Microsoft Excel, Microsoft	—	0
7	Dollars and Sense, Monogram	10	8
8	Helix, Odesta	12	4
9	Microsoft Chart, Microsoft	13	8
10	MacProject, Apple Computer	11	7
11	Omnis III, Blyth	—	0
12	Back to Basics, Peachtree	—	0
13	ThinkTank, Living Videotext	14	3
14	pfs:file, Software Publishing	6	7
15	First Base, DeskTop Software	—	0

Source: InfoCorp survey of over 300 retail stores

## Software Watch

Editors' choice: other recent software of particular interest

Business Filevision, Telos  
Data Management

Decision Map, SoftStyle  
Decision Making

Microphone, Software Ventures  
Communications



# New. TheMax 2.<sup>TM</sup>

Exclusively for the Macintosh Plus  
**TheMaxPlus<sup>TM</sup>**  
Coming in March\*

You've heard about TheMax. Now TheMax2 gives you even more – a full 2 Mb for the same low price. TheMax2 is more versatile than a RAM disk and runs circles around the fastest internal disk drive.

At the heart of the system is TheMax2, an expandable memory board that gives you 2 Mb of computing power, with software to let you configure the memory your way, plus a print spooler so you don't have to wait around while a document prints.

## 2Mb

### The 4 Mb Future is Here

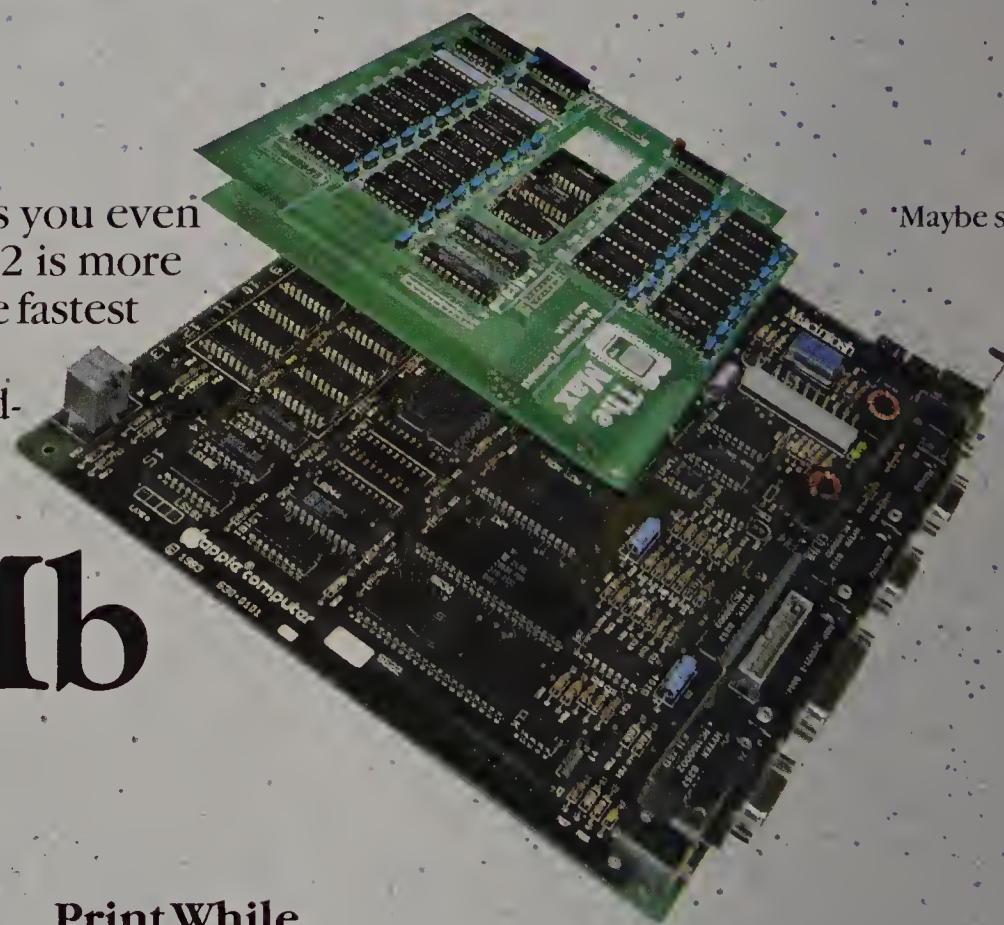
TheMax2 installs in minutes to give your Macintosh 2 Mb of memory with full Apple ROM compatibility. Even better, it's ready for expansion – just plug in 16 of the new megabit chips to realize the Macintosh's 4 Mb potential. And it adds less than 2 watts to your power consumption – so little, in fact, that it doesn't even require a fan.

### A Memorable Approach

Because different users have different memory requirements, our MaxRAM software lets you have it the way you need it.

*Configuration 1* gives you a 1.5 Mb of contiguous memory plus a 400K RAM disk. It's perfect for memory-intensive applications like databases, elaborate spreadsheets and integrated packages like Jazz. If you move between applications frequently, MaxRAM with Apple's Switcher lets you jump back and forth between as many as eight applications.

*Configuration 2* gives you a 512K fat Mac with a 1.5 Mb RAM disk. Use the RAM disk like a floppy disk – only 10 times faster. Put your most frequently-used programs on your RAM disk in the morning and use them at RAM speed all day – without juggling disks. Unlike other RAM disks, a program crash isn't fatal. TheMax2 lets you reset and recover your 1.5 RAM disk intact.



\*Maybe sooner

### Print While You Work

A welcome addition to TheMax2 is MaxPrint, a print spooler that takes the waiting out of printing. MaxPrint loads your text and graphics at RAM speed and feeds it to the printer so you can keep working. MaxPrint is a desk accessory that's there when you need it.



### TheMax2 is Available Now

TheMax2, complete with memory board, MaxRAM software, MaxPrint and a 90-day warranty, is available for both the 128K and 512K Macintosh. MacMemory also continues to offer 512K upgrades at better-than-Apple prices. Both TheMax2 and 512K upgrades are also available as kits.

**Ask Your Dealer for More Information**, or contact MacMemory Inc., 473 Macara Avenue, Suite 701, Sunnyvale, California 94086. (408) 773-9922.

## MacMemory Inc.

Apple is a trademark of and Macintosh is a trademark licensed to Apple Computer Inc. Jazz is a trademark of Lotus Development Corporation. TheMax, MaxRAM and MaxPrint are trademarks of MacMemory Inc.

Circle 337 on reader service card



# Get Info

*Macworld's tutor answers questions about Apple II emulation, file transfers, and on-line delays.*

**Lon Poole**



*An Apple II program crossing the Abaton Transform bridge becomes a Mac program.*

*As Apple consolidates its product line, Apple II and Macintosh compatibility becomes an issue. This month I answer letters from two readers who want to integrate the Apple II with the Mac. I also answer several MacTerminal-related questions: one from a reader who wants to know what the Answerback message is, and another from a reader whose Mac hangs up the phone too early. If you enjoy typing at a distance, you'll be interested in the search for a keyboard extension cable. And for word jugglers, I take a look at place markers, hard spaces, and text centering.*

## **Extending Keyboard Cables**

**Q.** I would like to use a longer keyboard cable with my Macintosh. I considered using a modular telephone cable, but the Macintosh reference manual says not to. Do you know of a source for longer keyboard cables?

*Eileen Driscoll  
Ithaca, New York*

**A.** As you say, you can't simply replace the standard keyboard cable with a 12- or 25-foot telephone handset cable, even though the connectors are the same. The wires in the Macintosh cable connect straight through from the connector on one end to the connector on the other end, but the wires in a telephone cable cross.

You can buy a 12-foot keyboard cable for \$9.95, or a 25-foot cable for \$12.95, postpaid, from Your Affordable Software Company, 1525 N. Elston Ave., Chicago, IL 60622, 312/235-9412. I've been using the 25-footer for six months with no problems.

## **Staying Connected**

**Q.** Sometimes when I use *MacTerminal* to call the mainframe computer at work from my Macintosh at home, the mainframe answers the phone, but then *MacTerminal* hangs up. This happens often enough to be annoying. What can I do to remedy the problem?

*Norris Crank  
Charlotte, North Carolina*

**A.** If your terminal program always seems to disconnect shortly after the number you dial is answered, try adding two or three commas at the end of the number. A comma in the phone number instructs an Apple modem or any modem compatible with the Hayes Smartmodem to pause during dialing. Each comma inserted in a dialing sequence creates a 2-second pause.

## **Place Markers**

**Q.** I used to use *WordStar* on a Digital Microsystems (CP/M) computer. Now I use *MacWrite*. I miss being able to type a command and quickly bring into view text that I have previously marked. Finding a particular passage of a large document using nothing but the scroll bar is a chore. Can you suggest an alternative?

*Al Rabin  
Provo, Utah*

**A.** You can create fake place markers in *MacWrite* or *Microsoft Word*. To place a marker, type unique characters, such as \$1 or \$2, that you know won't appear else-



(continued from page 67)

where in the document. Later locate a marker using the Find command in the Search menu. The Find command may take 3 or 4 seconds to find a marker in a long document, but that beats scrolling.

Also, don't overlook the Goto Page # command in the Search menu. Goto Page very quickly brings into view the top of any page you request, even in long documents. Of course, if you don't know on which page to look for a particular passage, you'll have to use the Find command or the scroll bar.

## Hard Spaces

**Q.** How can I keep *MacWrite* from word wrapping long equations that contain blank spaces?

Chris Highborn  
Calgary, Alberta  
Canada

**A.** Normal blank spaces, which you type by pressing the space bar, are considered soft spaces. Lines can be broken at a soft

space to fit the margins. To type a hard space, which is not considered a legitimate place to break a line, press Option together with the space bar. Hard spaces can take the place of normal spaces anywhere, even in desk accessories and dialog boxes.

A similar technique works with hyphens in *Microsoft Word*. Unlike *MacWrite*, *Word* can break lines at hyphens. Press Option and the hyphen key to type a hard hyphen in *Microsoft Word*.

## Lines Off Center

**Q.** Sometimes I have a line that just won't center properly. The misalignment happens in many different applications, including *MacWrite*, *Microsoft Word*, *MacDraw*, and *MacPaint*. Do you have any idea what's going on?

Harley Wilkes  
Louisville, Kentucky

**A.** Off-center lines are usually caused by blank spaces at the beginning of the line, and sometimes by blank spaces at the end. To remove leading spaces, select them by dragging the pointer across the unwanted spaces and then press Backspace. Do the same to remove trailing spaces.

## Apple II File Transfers

**Q.** Many years ago I worked with my brother's Apple IIe. My problem now is how to transfer my files from the Apple IIe disks to the Mac. Neither my brother nor I own a modem, but we could wire the two machines together. How do we go about it?

Nedra Foster Hecker  
Annapolis, Maryland

**A.** Transferring text files from an Apple II to a Macintosh is no problem. In addition to the two computers, you'll need an Apple Super Serial Card or equivalent for the Apple II. Don't worry about setting the two banks of small switches on the Super Serial Card, but make sure the jumper block is pointing to Modem, not Terminal. You can connect the Apple II's serial port to the Mac's modem port with a Mac Imagewriter cable.

You will also need a terminal program for each computer. Just about any terminal program will do. For the Macintosh *FreeTerm* is cheap and easy to use for text file transfer. *MacTerminal* is a little harder to

(continues on page 70)

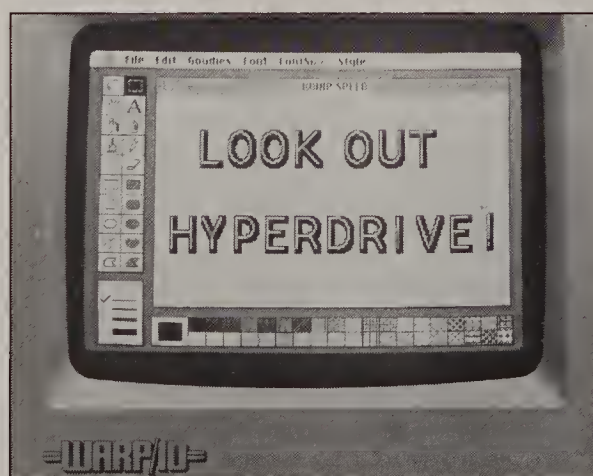
# 20 Meg Internal Mac Drive...949.00

## The WARP 20

The **WARP 20** Meg internal hard drive is powerful, fast, and *very* reliable. The **WARP 20** allows you all the performance of "those other guys" for less than 1/2 the price. Now you can finally start getting great performance out of your Macintosh by simply putting our hard drive in.



**It's Powerful and Portable.**



## It's Powerful and Fast.

The **WARP 20** is much faster than any of the external hard drives on the market, the reason for this is simple, the **WARP 20** attaches directly to your computer's 68000 processor. By doing this you avoid the "slows" associated with externally connected hard drives. The **WARP 20** is MAC-PLUS compatible.

## It's Reliable

Since the **WARP 20** simply clips onto  
**Circle 439 on reader service card**

your 68000 processor no cutting of components or "chopping" of the motherboard is necessary. We use the finest 3.5" 20 meg hard drive available. Our drives withstand rugged treatment to keep you computing.

## It's Easy to Order!

You can install the **WARP 20** in less than an hour, we provide all the tools and instructions necessary. If you prefer, our technicians can upgrade your Mac to 20 meg for you quickly and inexpensively.

**Get the most out of your Macintosh, put our hard drive in!**

To order call 800-328-6795 Ext. 433

**WARP NINE  
ENGINEERING INC.**

3216 HUMBOLDT AVE. S.  
MINNEAPOLIS, MN 55408

Hyperdrive is a trademark of General Computer Corp. / Rodime is a trademark of Rodime Inc. / Warp Nine is a trademark of Warp Nine Engineering Inc. / Macintosh is a trademark of the Apple Computer Corp.





# The C for the Macintosh

*"Library handling is very flexible...documentation is excellent...  
the shell a pleasure to work in...blows away the competition  
for pure compile speed...an excellent effort."*

COMPUTER LANGUAGES, 4/85

## Why Professionals Choose Aztec C

Professionals choose Manx Aztec C development systems because they are the most powerful, portable, and professional microcomputer C development systems available. Professionals know that Manx Aztec C offers the features, dependability, and performance required for producing professional results.

Applications implemented with Aztec C development systems range from real time control of robot arms used in manufacturing, to message switching systems, to games, languages, operating systems, and business systems.

Much of the commercial software for the Apple Macintosh including top selling titles from software publishers Broderbund, Hayden Software, and Spinnaker is developed using Manx Aztec C.

## Value, Performance, and Flexibility

Manx Aztec C68k for the Macintosh is available as a line of three upgradable development systems: Manx Aztec C68k-p, Manx Aztec C68k-d, and Manx Aztec C68k-c. Student, non-commercial, and small business discounts are available. Whatever your budget and requirements, there is a Manx Aztec C68k development system that offers you the best value and performance for your investment.

## New Macintosh Mouse Interface

The highly acclaimed, powerful, and professional Manx Aztec SHELL development environment now includes a mouse interface. Developers unfamiliar with UNIX or MS-DOS can work entirely with the mouse interface. Those interested in learning the advanced features of the SHELL can do so at their leisure. Developer's familiar with UNIX or MS-DOS can ignore the mouse, if they so choose, and work entirely in a familiar command driven environment.

## Aztec C, The Most Portable C.

Manx Aztec C Development Systems are available for the Apple Macintosh, Apple II, IBM PC, PC compatibles, CP/M-80 systems, Radio Shack Systems, and the Commodore 64/128. Manx Aztec C is also compatible with UNIX and UNIX ports. Manx currently is developing systems for the Amiga and other microcomputer systems. No other C Development System for the Macintosh comes close to the portability of Manx Aztec C.

## Power To Spare

In benchmark after benchmark, Manx Aztec C appears in column after column as the clear winner.

The following sieve benchmark timings are reprinted with permissions of Computer Languages, 131 Townsend Sr., San Francisco, Ca 94107 from a Macintosh review that appeared in the April, 1985 issue:

compiler	compile/link	run	size
Manx Aztec	49	7	13,274
Megamax	114	7	13,816
Softworks	201	9	46,914
consulair	152	10	17,654
Hippo 2	102	13	30,648

The following sieve benchmark timings are reprinted with permission of Macworld, 555 De Harro St., San Francisco, CA 94107, from the May, 1985 issue from "Mac Wins By a Length" in the Open Window column.

Language	Run Time
Aztec C 1.06C	6.55
McFORTH 2.0	20.01
Modula-II	71.60
MBASIC 2.00	1170.00
Pascal	1270.00

## Sieve timings for Manx Aztec C68k 1.06g:

with register variables 3.37 secs 5,007 bytes  
without register variables 6.02 secs 5,140 bytes

## Manx Aztec C68k - Professional Tools

Manx Aztec C68k is bundled with a rich abundance of tools to help produce superior results in reasonable time frames. The following is a list of features and facilities included in Aztec C68k-d, the Developer's System, and Aztec C68k-c, the Commercial system. Items that are marked -c are unique Aztec C68k-c.

Optimized C	Mouse Enhanced SHELL
UNIX-like SHELL	Creates desk Accessories
Macro Assembler	Creates Clickable Applications
Smart Overlay Linker	Phone Support
C-PASCAL Interface	PASCAL-C Interface
Resource Compiler	UNIX Library Functions
Debuggers	Terminal Emulator (Source)
Object Librarian	Easy Access to Mac Toolbox
Mouse Editor	unlimited code size
IEEE floating point	six register variables
Inline assembly	extensive sample programs
600 page manual	hard disk support
no license fees	PASCAL type strings
MacinTalk support	AppleTalk support
code optimizer	symbolic debugger (512k)-c
MacRam Disk-c	UniTools (ul, make grep, diff)-c
Library Source-c	One Year Of Updates-c

## Summary

If you plan to program in C on the Macintosh or are currently doing so using a brand x C compiler, there is a Manx Aztec C68k system for you that offers the best value and the greatest degree of portability, power, and professional quality available.

Look around, evaluate, and compare. The more you look, the more you compare, the more you will see that Manx Software Systems has succeeded in its objective to provide you with the best C development system available at the best possible price. Then, give us a call, and join the 25,000 users who already know and enjoy the Manx Aztec C advantage.

## Products and Prices

Aztec C68k-c Commercial System	\$499
Aztec C68k-d Developer's System	\$299
Aztec C68k-p Personal System	\$199
C-tree database (with source)	\$399
Lisa Kit	\$ 99
MS-DOS → Macintosh Cross	\$750

## Discounts

Discounts are available for professors, students, independent developers, hobbyists, and small businesses.

## How To Become an Aztec C User

To become an Aztec C user call 1-800-221-0440 or call 1-800-832-9273 (800-TEC WARE). In NJ or outside the USA call 201-530-7997. Orders can be telexed to 4995812.

Payment can be by check, COD, American Express, VISA, Master Card, or Net 30 to qualified customers.

Orders can also be mailed to Manx Software Systems, Box 55, Shrewsbury NJ, 07701.

## How To Get More Information

To get more information on Manx Aztec C and related products, call 1-800-221-0440 or 201-530-7997, or write to Manx Software Systems.

## 30 Day Return Policy

Manx has a 30 day return policy. If you don't like your Manx Aztec C development system, return it within thirty days for a refund. Refunds do not include shipping costs, and might incur a small restocking charge.

## Distribution Of Manx Aztec C:

In the USA, Manx Software Systems is the sole and exclusive distributor of Aztec C. Any telephone or mail order sales other than through Manx are unauthorized. Aztec C is available from qualified retail outlets under license to Manx Software Systems.

Circle 112 on reader service card



To order or for information call:

**800-221-0440**

UNIX is a registered TM of Bell Laboratories, Lattice TM Lattice Inc., C-tree TM Faircom Inc., PHACT TM PHACT ASSOC., C Optimizing C68 TM Computer Innovations, Inc., MACINTOSH, APPLE TM APPLE, INC., Pro-C, PUNK 86 TM PHOENIX, HALO TM Media Cybernetics, Inc., C-tree, PC-Int TM GIMPLE Software, Windowscreen, SunScreen TM Suntec, PANEL TM Rational Computer Systems Ltd., WINDOWS FOR C TM Creative Solutions, KENIX, MS TM MICROSOFT INC., CPM TM UNL, AMIGA, C64, C128 TM COMMODORE INC.



(continued from page 68)

use for text file transfer and costs more, but it lets you transfer files four times faster. More sophisticated programs, such as *Smartcom II*, *inTouch*, *Telescope*, and *Red Ryder*; also work. I'm not very familiar with Apple II terminal programs, but I know *Apple Access II* and *ASCII Express Pro* from United Software both work.

For successful file transfer, you must set both terminal programs to the same communications settings—baud rate (speed), parity, character length, and duplex (local echo). For the fastest transmission, choose the highest baud rate available.

The Xmodem error-checking protocol, which is offered with many communications programs, improves the accuracy of transfers made over the phone. Since your computers will be connected directly, however, you don't need Xmodem.

For specific instructions on completing the transfers, I'll have to refer you to the terminal programs' manuals. There's too much variation to give you any meaningful summary here.

## Answerback Message

**Q.** I have a question about *MacTerminal*. What is the Answerback message, and how do I use it?

Ellen Warnock  
Plano, Texas

**A.** A few remote computers expect your terminal program to identify itself immediately after connecting. When a remote computer sends a ⌘-E character, *MacTerminal* responds automatically with the message you enter in the Answerback dialog box.

You can also use the Answerback feature to respond with a routine message, such as your account number or password. Any time you press ⌘-Enter, *MacTerminal* sends the Answerback message. Your mes-

Answerback Message
OK

Cancel

### Answerback

Each embedded ^M in the MacTerminal Answerback message generates a return character, as if you had pressed the Return key at that point.

sage can include return characters, even though pressing the Return key closes the dialog box. Wherever you want a return character in the Answerback message, embed the two characters ^M (see "Answerback").

## Changing Default Fonts

**Q.** How can I make *MacWrite* default to a font other than Geneva?

T. R. LaFebr  
Golden, Colorado

**A.** *MacWrite* and most other application programs use the Geneva font by default because the System file designates it as the default application font. It has not always been so; long-time Macintosh users will remember that New York was the usual application font for the first five months of 1984.

You could designate a different font as the application font by changing the System file with a resource editor such as

(continues on page 72)

## Apple Crisp?

**Protect your Mac with the MacGard™ Surge Protector**

- Eliminates both line-to-line and line-to-ground voltage surges and spikes
- Eliminates altered memory and data disruptions caused by static electricity
- Eliminates damage to hardware and software caused by faulty grounding in electrical outlets
- Eliminates scrambled monitor images caused by radio frequency interference
- Easy on/off fastening makes transporting your Mac easy
- 5-year warranty
- Available in computer stores everywhere or by calling 1-800-451-6866. In Michigan call collect 906-774-0440.



A product of  
Systems Control  
A Division of M.J. Electric  
North U.S. 2, P.O. Box 788  
Iron Mountain, Michigan 49801

## MacGard™

Circle 177 on reader service card

# Megamax C

for the Macintosh™

**Featuring**

- One Pass Compile • In-line Assembly • Smart Linker • Full Access of Macintosh Routines • 6 Register Variables • Dynamic Overlay Support • Program Profiler • and much more ...

**System Includes:**

- Full K&R C Compiler (with common extensions) • Linker • librarian • Disassembler • C Specific text editor • Code Improver • RMaker • Examples • Documentation • and Batch — a full featured command language processor.

\*Megamax C is a fantastic development system and should become the new standard language for Macintosh software development"  
MACazine — Jan. 85

Name	Size	Time
STEVE	5632*	4.17
	5608	6.2
FIBONACCI	5610	26
"HELLO, WORLD"	5100	N/A

\*using register variables


**Megamax C \$299.95**

**Megamax C Debugger \$99**

**Megamax C now available for Atari ST computers**

Call or Write for more information, to:

**Megamax, Inc.**  
Box 851521  
Richardson, TX 75085-1521  
(214) 987-4931

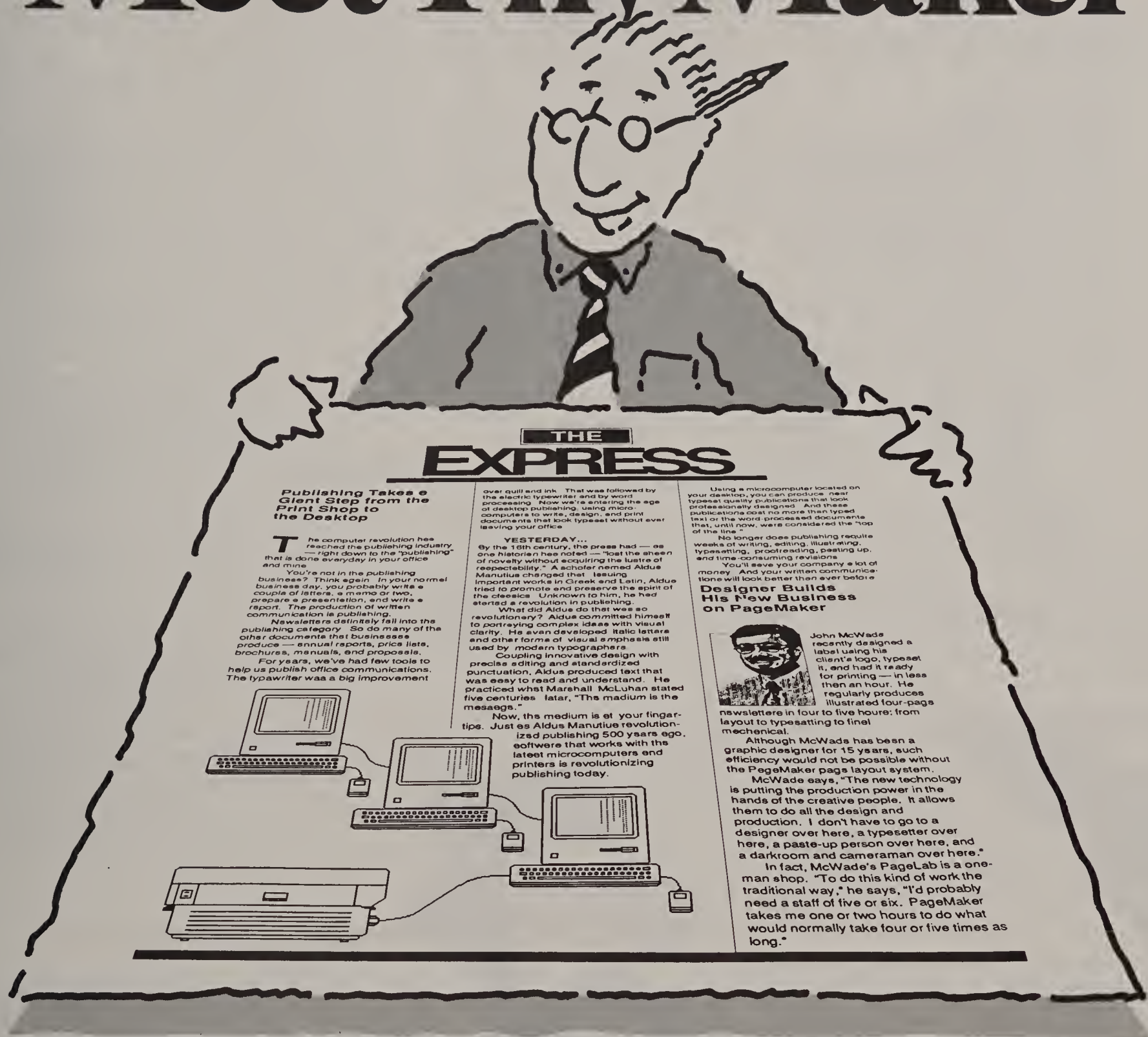


VISA, MC, AMX, COD accepted

Circle 109 on reader service card



# Meet Thy Maker



PageMaker™, the remarkable page layout software program, brings the capability of a dedicated publishing system to the personal computer for the first time. You can now produce high-quality business communications such as newsletters, data sheets and price lists in your own office.

Combining PageMaker with a Macintosh Computer and Laser-

Writer creates a powerful desktop publishing system. It so substantially reduces the time and money you spend on publications, the system pays for itself in less than one year. PageMaker eliminates the need to spec, order, wait and pay for type, illustrations and photostats. It gives you the ability to prepare and print your publications within hours rather than days or weeks.

It's time you met your PageMaker. For more information, contact your authorized Apple® dealer or Aldus Corporation.

## PageMaker

**Aldus Corporation**  
616 First Avenue, Suite 400  
Seattle, Washington 98104  
(206) 441-8666

\*PageMaker is a trademark of Aldus Corporation. Apple® is a trademark of Apple Computer, Inc. Macintosh™ is a trademark licensed to Apple Computer, Inc.

©1985, Aldus Corporation

Circle 306 on reader service card



(continued from page 70)

*ResEd* or a disk editor such as *Fedit*, but there are easier alternatives. The desk accessory *Change Font D.A.*, written by Lofty Becker, lets you easily change the default application font to any available font. *Change Font* is available from user groups, including MAUG on CompuServe (file CHFONT.BIN in DL3). The desk accessory is also available in application program form (file CFONTA.BIN in MAUG's DL3).

You might like to change some of *MacWrite*'s other default settings as well—margins, indentation, tabs, headers, footers, and so on. In that case, you can make a preformatted template for each type of document you habitually create.

To make a preformatted template, start with a new document. Make selections in the Page Setup dialog box; establish the rulers, headers, and footers you'll need; and take care of any other necessary paragraph and document formatting. Choose the font, size, and type style for the document. Type any text and insert any pictures that will appear in every document of this kind. Save the document using a suitable generic name such as Letter, Envelope, or Label.

Then, instead of using the New command to create a new document, open the appropriate template document. In order to avoid accidentally saving your new document over the template on disk, you should immediately use the Save As command with the name of the new document you are about to create to make a new copy of the template.

### The Print Catalog Twins

**Q.** The Print Catalog command used to print small images of *MacPaint* documents, but now it simply prints the *MacPaint* document icon with its title. Why?

Neil Tyra  
Potomac, Maryland

**A.** Your confusion is caused by the fact that there are now two Print Catalog commands. The one you're accustomed to, which prints miniatures of all *MacPaint*

(continues on page 75)

NEW

Williams & Macias

## myDiskLabeler™

Choose from a variety of formats, fonts, text sizes, and styles to design and print your own high quality, removable labels for 3½" disks.

### New, Version 2 With Icon Grabber

With the advanced, Version 2 myDiskLabeler™ you can grab application icons and modify them, or create your own logos. Six windows provide editing of text or graphics: disk name, disk edge, contents, owner, automatic date, and picture. myDiskLabeler™ also reads and sorts disk directories. Save labels for easy updates.

### Precision Printing

Print one or many labels at a time. Graphics interface makes alignment of Smart Labels™ quick and easy. Three print qualities are available.

### Color Printing Option

Design and print color labels with color option and Imagewriter II™ printer. Option is only an additional \$10.00\*.

### Smart Labels™

myDiskLabeler™ includes 54 die-cut Smart Labels™ designed for the Imagewriter.™ Labels wrap around the disk edge, have a matte finish, and are removable. Refills are \$5.00 for 54 labels, \$9.50 for 108 labels, or \$18.00 for 216 labels.

Call today, or ask your Apple dealer. Shipping to 48 states is \$3.00 (\$1.00 for each additional item). myDiskLabeler™ is for Macintosh™ (128, 512, or XL) and Imagewriters.™

Version 2, Only \$44.95\*

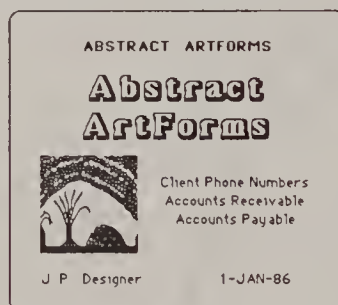
With Color, Only \$54.95\*

Visa & Mastercard

Call Toll-free: 1-800-752-4400

M—F 8:00 a.m. to 5:00 p.m. PST

From Washington & Alaska, call (509) 458-6312



\*Washington State residents add 7.8% sales tax. Macintosh & Imagewriter are trademarks of Apple Computer, Inc.



Williams & Macias

Microcomputer Products

Spokane International Airport Business Park  
P.O. Box 19206, Spokane, Washington 99219

Circle 374 on reader service card

3M  
diskettes

Everything that goes into a 3M diskette is manufactured and/or controlled by specifications set by 3M.

From unique substrates and oxides, to hole punching and jacket fabrication, 3M does it all and does it well. With confidence in your complete satisfaction,

3M diskettes are certified to be error free and have an unlimited warranty against defects in workmanship or materials. Day in and day out 3M gives you one less thing to worry about.

What separates us from our competition? Simply a combination of the best service in the industry, highly competitive pricing, and an ever widening range of products. Above all we care about our reputation and we are willing to work on a lower margin while delivering what others only claim—and we do it all on a day-in day-out basis.

Early in 1986 every subscriber to *Mac World* will receive our New 1986 First Edition Catalog with 16 additional pages and dramatically lower pricing. We want to be your source for computer supplies & accessories.

**Lyben  
Computer  
Systems**

WATCH  
FOR  
OUR  
NEW 1986  
CATALOG

1050 E. MAPLE RD. • TROY, MI 48063  
(313) 589-3440

Circle 455 on reader service card



# FLUENT

FOR THE IMAGEWRITER™

A two-disk set of fonts with 48 different styles. Useful for Graphic Artists, Language Students, Teachers, Engineers, Scientists - anyone who wants to express ideas clearly.

DISPLAY VARIETY  
TECHNICAL SYMBOLS  
\* SPECIALTY OK

Word Processing • Letter Writing  
Eûrôpeañ Łánguagěš ФИ

This package of fonts represents the broadest selection, greatest attention to detail, and the best value we've run across.

ICON REVIEW

The best deal I've seen so far is  
Fluent Fonts...Hot stuff.  
John G. Dvorak  
InfoWorld

Fluent Fonts "has some of the best fonts I've ever seen...something for everyone...There is no doubt it is the most for the money."  
Barbara Leone  
Micro Times

DEMO SlideShow free to Dealers  
More Fonts: If you already have Fluent Fonts you will want our supplement disk with additional sizes plus a few new fonts. Write or call to order.

All samples above were created with Fluent Fonts and printed on the LaserWriter. Output shown actual size.

# FLUENT FONTS™

FOR THE Laser WRITER™

Calligraphy  
SansSerif  
BODONI  
PREMIERE  
RITZ  
Cyrillic

Casady Company has a growing collection of typefaces in PostScript, for use on the LaserWriter and compatible printers.

To Order Fluent Fonts™ or Fluent Laser Fonts™  
Call (408) 646-4660

Casady Company

P.O. Box 223779 Carmel, CA 93922

Trademarks: Fluent Fonts, Fluent Laser Fonts-Casady Company; LaserWriter, ImageWriter-Apple Computer, Inc.; PostScript-Adobe Systems Inc.

# SPELLSWELL

A Better Spelling Checker

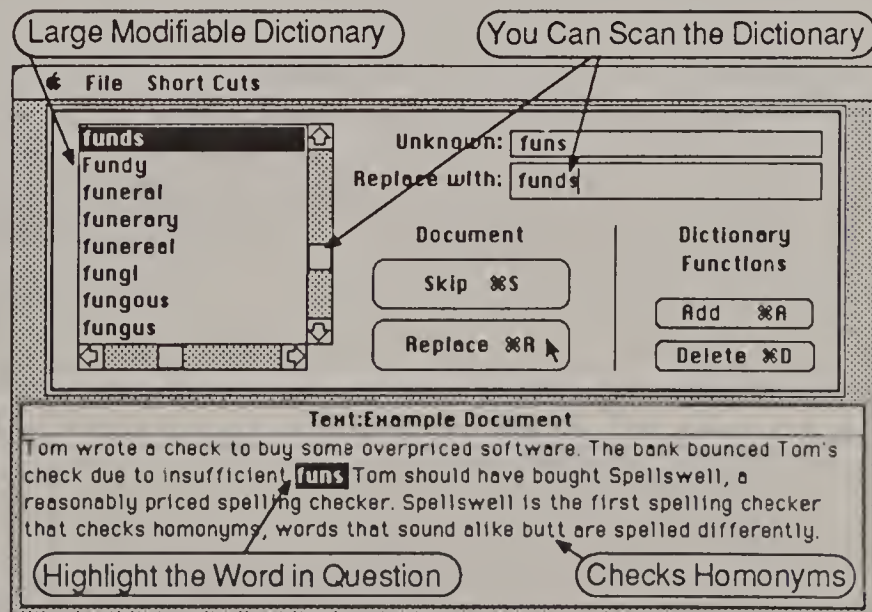
for MacWrite™, Word, ThinkTank™ and Text Documents

Spellswell quickly and accurately checks spelling. It catches errors the other checkers miss. Spellswell will catch all three errors in "Its time too say by." Correct an error once. Spellswell automatically corrects the error each time it recurs. Spellswell detects contraction errors like "dont" and abbreviation errors like "Phd." In addition to its large modifiable dictionary, it has a separate homonym dictionary. A demo slideshow is available for \$7.50†. You can reuse the slideshow program for your own purposes. Simply a better checker for a better price.

\$49.95† Mastercard, Visa Accepted

†Add \$2.50 Shipping in U.S.—Calif. residents add sales tax.

Trademarks: MacWrite—Apple Computer, Inc.; Spellswell—Greene, Johnson Inc.



Greene, Johnson Inc.  
15 Via Chualar • Monterey, CA 93940  
(408) 375-2828



# MacIntax™

## THE INCOME TAX PROGRAM

File Edit Options Forms

untitled/Form 1040

1040 U.S. Individual Income Tax Return 1985

Department of the Treasury-Internal Revenue Service

For the year January 1-December 31 1984 or other tax year beginning 1984 ending 1984

1984 Mo. 1545-0074

Your first name and initial (if joint return, also give spouse's name and initial) Last name  
Michael W & Susan A Moore

Your social security number  
123 45 6789

Spouse's social security no  
987 65 4321

Present home address (Number and street, including apartment number, or rural route)  
917 Oakdale Avenue

City, town or post office, State, and ZIP code  
Danbury Park, CA 99320

Your occupation Tax Preparer

Spouse's occupation Programmer

Presidential Election Campaign Do you want \$1 to go to this fund? Yes No

Filing Status  
1 Single  
2 Married filing joint return (even if only one had income)  
3 Married filing separate return Enter spouse's social security no. above and full name here  
4 Head of household (with qualifying person). (See page 5 of Instructions.) If the qualifying person is your unmarried child but not your dependent, write child's name here  
5 Qualifying widow(er) with dependent child (Year spouse died > 1) (See page 6 of Instructions.)

Exemptions  
6a Yourself ☒ 65 or over ☐ blind Enter number of boxes checked on 6a and b 2  
6b Spouse ☐ 65 or over ☐ blind  
6c First names of your dependent children who lived with you Timothy, Lisa  
6d Other dependents: (1) Name (2) Relationship (3) Number of months lived in your home (4) Did dependent have income of \$1,000 or more? (5) Did you provide more than one-half of dependent's support? Enter number of other dependents

File Edit Options Forms

untitled/Form 1040

1040 U.S. Individual Income Tax Return 1985

Department of the Treasury-Internal Revenue Service

For the year January 1-December 31 1984 or other tax year beginning 1984 ending 1984

1984 Mo. 1545-0074

Your first name and initial (if joint return, also give spouse's name and initial) Last name  
Michael W & Susan A Moore

Your social security number  
123 45 6789

Spouse's social security no  
987 65 4321

Present home address (Number and street, including apartment number, or rural route)  
917 Oakdale Avenue

City, town or post office, State, and ZIP code  
Danbury Park, CA 99320

Your occupation Tax Preparer

Spouse's occupation Programmer

Presidential Election Campaign Do you want \$1 to go to this fund? Yes No

Filing Status  
1 Single  
2 Married filing joint return (even if only one had income)  
3 Married filing separate return Enter spouse's social security no. above and full name here  
4 Head of household (with qualifying person). (See page 5 of Instructions.) If the qualifying person is your unmarried child but not your dependent, write child's name here  
5 Qualifying widow(er) with dependent child (Year spouse died > 1) (See page 6 of Instructions.)

Exemptions  
6a Yourself ☒ 65 or over ☐ blind Enter number of boxes checked on 6a and b 2  
6b Spouse ☐ 65 or over ☐ blind  
6c First names of your dependent children who lived with you Timothy, Lisa  
6d Other dependents: (1) Name (2) Relationship (3) Number of months lived in your home (4) Did dependent have income of \$1,000 or more? (5) Did you provide more than one-half of dependent's support? Enter number of other dependents

- DISPLAYS EXACT IRS FORMS ON SCREEN.
- LINKS ALL FORMS AND SCHEDULES.
- AUTOMATICALLY CALCULATES ALL TAXES AND TOTALS WITH EVERY INPUT.
- CONTAINS COMPLETE IRS INSTRUCTIONS ON-LINE.
- ITEMIZE ANY AMOUNT. COMPLETE IRS WORK SHEETS AVAILABLE. SAVE AND PRINT ALL ITEMIZATIONS AND WORK SHEETS.
- ENTER ESTIMATES FOR TAX PLANNING, PROJECTIONS, "WHAT IF" ANALYSES.

### MacIntax Federal: \$75

Forms: 1040, 1040A, 1040EZ, 2119, 2441, 3903, 5695, 6252.

Schedules: 1, A, B, D, E, G, R, W.

### MacIntax Business Supplement: \$30

Requires MacIntax Federal to operate. Fully linked with Federal Package.

Schedules: C, F, SE.

Forms: 2106, 2210, 3468, 4562, 4797, 6251.

### MacIntax State Supplements: \$30

Requires MacIntax Federal to operate. Fully linked with Federal Package and Business Supplement.

States: California.

PRINTS EACH OF THE IRS FORMS WITH ALL DATA ONTO BLANK PAPER - BOTH IMAGEWRITER™ AND LASERWRITER.™ PRINTOUTS ARE FULLY IRS APPROVED FOR SIGNATURE AND SUBMISSION.

**SOFT  
VIEW**

**SOFTVIEW I, LTD.**

315 Arneill Road, Suite 215  
Camarillo, CA 93010 • (805) 388-2626

To order, send check or money order to SoftView I, Ltd. California residents add 6% sales tax. MasterCard/VISA accepted. Dealer inquiries invited. Available January, 1986.

OR, call our **HOTLINE:** 1-800-MACNTAX (outside California)  
1-800-MACVIEW (within California)

MacIntax is a trademark of SoftView, Inc.

**ALL PROGRAMS ARE TAX DEDUCTIBLE**

### SPECIAL REBATE:

Send in your original disk(s) and documentation from any other Macintosh™ income tax preparation program and order MacIntax Federal and MacIntax Business Supplement at HALF PRICE. Limit: one per customer.

Circle 456 on reader service card

Macintosh is a trademark licensed to Apple Computer, Inc.

ImageWriter and LaserWriter are trademarks of Apple Computer, Inc.



(continued from page 72)

documents on a disk, is a feature of *MacPaint*. To use it, you must first start *MacPaint*.

The other Print Catalog command is a feature that was added to the Finder in May 1985. Versions 4.1 and 5.1 of the Finder have a Print Catalog command, but earlier versions do not. The Finder's Print Catalog command prints a list of all documents, applications, and folders present in the active window. The current choice in the View menu—by icon, by name, and so on—determines the format of the printed list.

## A MacAppleII?

**Q.** I am contemplating taking some courses for an MBA through an electronic university. However, the courses are available only in versions for the IBM PC, Apple II, and Commodore 64. Some of the material comes via modem from the university's electronic mail service, and some comes on 5¼-inch disks. I know MacCharlie would allow me to run the IBM PC version of the software and read the IBM PC disks. But I understand there is an Apple II emulator for the Mac that would allow me to run the Apple II version of the program. If I used that, how could I read the 5¼-inch Apple disks? Would the Abaton Transform work?

*Jeffrey S. Snow  
Fort Branch, Indiana*

**A.** The Abaton Transform can't solve your problem. To understand why, imagine a one-way bridge across the English Channel. English people who cross the bridge become French and refuse to speak English. After crossing the bridge to France, they no longer read English books. Similarly, an Apple II program crossing the Abaton Transform bridge becomes a Mac program and no longer reads Apple II data files on disks of any size. The Abaton Transform (see *Macworld View*, December 1985) is designed chiefly for Apple II program developers and publishers, a fact its \$1995 price reflects. Perhaps you could convince the electronic university to use an Abaton Transform to create Mac versions of their courses.

The Apple II emulator you mention is probably *Mac + II* (from Meacom, P.O. Box 272591, Houston, TX 77277, 713/526-5706). It's now available in two versions: version 1.0 for 128K Macs (\$99.95) and version 2.0 for Macs with 512K or more (\$149). *Mac + II* consists of three disks, two for the Mac and one for the Apple II, and a brief manual. *Mac + II* can transfer programs and data from an Apple II through an Imagewriter cable to a Mac. Then, on a Mac, it can run the transferred Apple II programs and use the transferred Apple II data. A transferred program runs slower on the Mac than on an Apple II—about a sixth the speed with *Mac + II* version 1.0 and a fourth as fast with version 2.0.

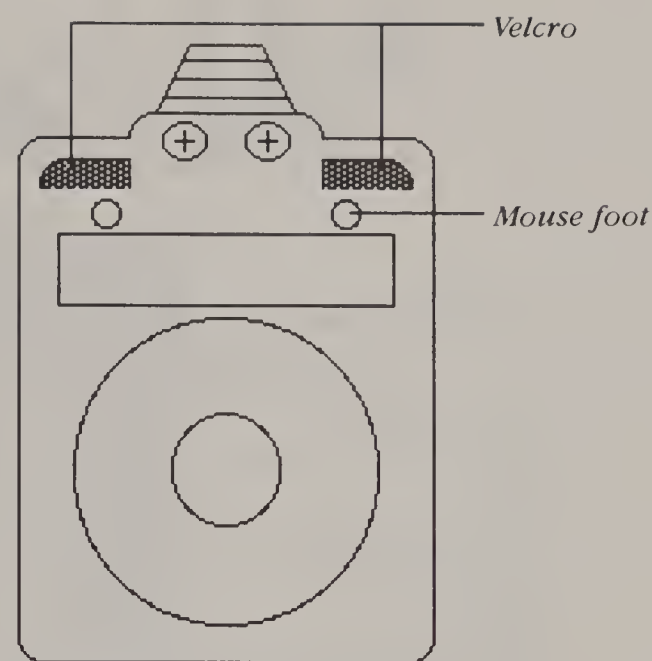
When you start a Mac with a *Mac + II* disk, the Mac behaves like an Apple II. There are no more icons, windows, or pull-down menus; the Macintosh features are replaced with Apple II features. You must type commands such as CATALOG, RUN, and SAVE. You can write programs in Applesoft BASIC, Integer BASIC, or 6502 assembly language. Apple II programs and data you create using *Mac + II* on the Mac can be transferred to an Apple II.

Both versions of *Mac + II* work with programs written for the Apple II or Apple II+ that use the DOS 3.3 operating system. Neither *Mac + II* version works with programs that use features found only on the Apple IIe or Apple IIc, such as 80-character text lines. Programs that shortcut the operating system to alter the screen directly may not look right on version 1.0 unless they are rewritten. Version 2.0 handles direct altering of the screen. It also supports the DOS 3.3, ProDOS, and Pascal 1.3 operating systems, and the more advanced version reads 3½-inch Apple II Unidisks directly. New versions of *Mac + II* that support Apple IIe and IIc features are in the works.

## Reshod Mouse Feet

**Q.** In your September 1985 *Get Info*, Eric Bailey asked about worn mouse feet. I had the same problem, which I solved economically by applying self-adhesive Velcro strips to the bottom of the mouse, adjacent to the worn feet (see "Velcro Feet"). Use the fuzzy face of the Velcro, not the face with the plastic hooks.

*Juan Sexton  
Topeka, Kansas*



### Velcro Feet

*Too many miles on your mouse feet? The fuzzy face of self-adhesive Velcro strips attached as shown keeps your mouse gliding along.*

**A.** Thanks for the tip. Lately I've been using a variety of three-wheeled, ball bearing roller skate called Mouse Mover (Magnum Software, 818/700-0510). The Mouse Mover clips to the base of a Mac, Lisa, or Apple II mouse, completely eliminates the worn-feet syndrome, and makes moving the mouse a bit easier and more precise. The product's 99 ball bearings are a bit noisy though, especially on hard surfaces, and make your mouse sound as if it's trying out for the roller derby.

Get Info answers questions about the Macintosh and how it works. When you need advice about using the Mac, drop me a line. I cannot respond to all letters, but I will answer the most representative questions. Send your question about the Macintosh, Macintosh software, and Macintosh programming to Get Info, Macworld, 555 De Haro St., San Francisco, CA 94107. Send electronic mail to CompuServe 70370,702 or The Source BCW440. All published submissions become the property of Macworld.

*Lon Poole is a Contributing Editor of Macworld.* □



# We support the Mac,

✓denotes Mac XL compatibility.\*

## SOFTWARE

### Addison-Wesley

Smart Eyes (*speed reading tutor*) .....\$36.

### Altsys

✓Fontastic (*create your own fonts*) ..... 27.

### Ann Arbor Softworks

Animation Toolkit 1 ..... 31.

### Apropos

Financial Planning (*reqs. Multiplan*) ..... 51.

Investment Planning (*reqs. Multiplan*)... 51.

### Arrays/Continental

Home Accountant (*reqs. external drive*) 52.

### Assimilation

✓MacTracks ..... 22.

✓MacMemoryDisk (*reqs. 512k*)..... 22.

✓BusinessEssentials..... 65.

✓MacSpellRight ..... 69.

✓RightWord ..... 69.

### ATI

Teach Yourself Multiplan ..... 29.

MacCoach Training ..... 39.

Jazz Training ..... 39.

Excel Training ..... 39.

### Batteries Included

✓The Mac BatteryPak..... 27.

### Blyth Software

✓Omnis 3 (*requires 512k, external drive*) 245.

### Borland International

✓Sidekick (*unprotected*)..... 44.

### BrainPower

✓PowerMath (*requires 512k*)..... 52.

✓StatView (*statistics package*) ..... 99.

### CAMDE

✓Nutriscalc (*diet & nutrition analysis*) ..... 49.

### Casady Company

✓Fluent Fonts (*two-disk set*) ..... 29.

### Central Point Software

Copy II Mac (*includes MacTools*) ..... 20.

### Chang Labs

✓Rags to Riches Receivables (*reqs. 512k*) 105.

✓Rags to Riches Ledger ..... 105.

✓Rags to Riches Payables ..... 105.

✓Rags to Riches Three Pak ..... 249.

### Creighton Development

✓MacSpell+ (*requires 512k*) ..... 55.

### DataFood

✓DrawForms (*requires MacDraw*) ..... 30.

✓MacForms (*requires MacPaint*) ..... 42.

### Desktop Software

✓1st Port (*communications software*) ..... 48.

✓1st Merge ..... 48.

✓1st Base ..... 95.

### Digital, Etc.

✓Maccountant ..... 139.

### Dilithium Press

PC to Mac & Back (*link your PC*) ..... 79.

### Dow Jones

Straight Talk ..... 45.

Spreadsheet Link ..... 56.

Market Manager PLUS..... 109.

### Dreams of the Phoenix

✓Day Keeper Calendar ..... 27.

✓Mouse Exchange BBS..... 27.

✓Mouse Exchange Terminal ..... 27.

✓Quick & Dirty Utilities Vol. 1 ..... 27.

✓Twelve-C Financial Desk Accessory..... 27.

### Electronic Arts

Pinball Construction Set.....\$27.

Financial Cookbook ..... 32.

Deluxe Music Construction Set ..... 32.

### Enteraset

✓Quickpaint (*find MacPaint files fast*) ..... 29.

✓Quickset (*icon-driven accessory*) ..... 29.

✓Quickword (*word processing tool*) ..... 32.

### 1st Byte

Speller Bee (*spelling-learning tool*) ..... 42.

KidTalk (*"talking notebook"*) ..... 42.

Smoothtalker (*version 2.0*)..... 57.

### Forethought

✓Typing Intrigue..... 29.

✓Factfinder (*free-form entry*)..... 84.

✓FileMaker (*custom design reports*) ..... 108.

### Fortnum/Southern

✓MacNooga Choo-Choo (*reqs. 512k*) ... 21.

### MacChemistry

..... 89.

### Great Wave Software

The Art of Fugue (*Bach*) ..... 12.

Instrumental Favorites ..... 12.

✓Comet Halley ..... 18.

ConcertWare+ ..... 39.

### Harvard Associates

✓MacManager (*business simulation*)..... 29.

✓Desktoppers (*new desk accessories*) .. 29.

### Hayden Software

✓DaVinci Buildings ..... 29.

✓DaVinci Interiors ..... 29.

✓DaVinci Landscapes ..... 29.

✓DaVinci Building Blocks..... 46.

✓DaVinci Commercial Interiors..... 114.

✓Art Grabber with Body Shop ..... 29.

Turbo Turtle ..... 35.

I Know It's Here Somewhere ..... 35.

MusicWorks ..... 45.

Hayden:Speller ..... 45.

Score Improvement System for the SAT 57.

VideoWorks ..... 57.

Ensemble ..... 155.

### Hippopotamus Software

Hippo Computer Almanac ..... 21.

✓Hippo-Lock (*file security program*) ..... 68.

Hippo-C - Level 1 ..... 79.

Hippo-C - Level 2 ..... 219.

### Human Edge Software

✓Mind Prober ..... 26.

### Ideaform

✓MacLabeler (*print disk labels*) ..... 29.

### Innovative Data Design

✓Paste-Ease (*requires MacPaint*)..... 35.

✓MacDraft (*requires 512k*)..... 139.

### Kensington

✓Graphic Accents ..... 29.

✓Type Fonts for Text..... 29.

✓Type Fonts for Headlines (*reqs. 512k*).. 42.

### Layered

✓Front Desk (*scheduling/organizer*) ..... 77.

### Linguist's Software

✓MacCyrillic ..... 39.

✓SuperFrench/German/Spanish ..... 39.

✓Tech (*1000 different symbols*) ..... 59.

✓MacArabic ..... 59.

✓MacKana/Basic Kanji ..... 59.

✓MacKorean..... 59.

✓SuperGreek ..... 59.

✓SuperHebrew..... 59.

✓SuperGreek/Hebrew/Phonetics ..... 89.

### Legissoft/Nolo Press

✓WillWriter ..... 27.

### Living Videotext

ThinkTank 128k ..... \$75.

✓ThinkTank 512k ..... 125.

### Magnum

✓McPic - Volume I..... 28.

✓McPic - Volume II ..... 28.

✓The Slide Show Magician ..... 34.

### Manhattan Graphics

✓Ready Set Go 2.0 (*requires 512k*)..... 65.

### Mark of the Unicorn

Professional Composer (*reqs. 512k*)... 249.

### Microsoft

Entrepreneur ..... 29.

Learning Multiplan and Chart..... 37.

Chart ..... 72.

Logo..... 75.

Basic (*version 2.1*) ..... 87.

Multiplan ..... 107.

File ..... 111.

Word ..... 111.

Fortran ..... 179.

Excel ..... 225.

### Miles Computing

✓Mac the Knife - Volume I..... 21.

✓Mac the Knife - Volume II ..... 25.

✓Mac the Knife - Volume III ..... 27.

### Mindscape

✓The Perfect Score: SAT ..... 47.

### Monogram

✓Forecast ..... 40.

✓Dollars & Sense..... 81.

### Nevins Microsystems

Turbocharger (*requires 512k*)..... 55.

### New Canaan MicroCode

✓Mac Disk Catalog ..... 25.

### Odesta

✓Helix (*requires 512k, external drive*) .. 219.

### Organizational Development

✓Consultant (*idea management*) ..... 119.

### Paladin

✓Crunch (*requires 512k*) ..... 165.

### Palantir

✓MacType (*supports Dvorak keyboard*).. 26.

✓MathFlash (*math flash card drills*)..... 26.

✓WordPlay..... 26.

Accounts Receivable (*requires Basic*) .. 69.

General Ledger (*requires Basic*)..... 69.

Inventory Control (*requires Basic*)..... 69.

inTouch (*communication to emulation*).. 79.

### PBI Software

✓Icon Switcher ..... 14.

✓Icon Fun & Games Library ..... 14.

✓Icon Business Library..... 14.

### Peachtree

✓Back to Basics General Ledger..... 88.

✓Accounts Payable..... 88.

✓Accounts Receivable ..... 88.

### Protekt-it Software

ProCopy/ProEdit ..... 29.

### ProVUE Development

✓OverVUE (*version 2.0*) ..... 149.

### QED Information Sciences

✓Typing Made Easy ..... 36.

### Rubicon Publishing

✓Dinner At Eight (*recipes to wines*)..... 35.

### Satori

✓BulkMailer (*mailing list mgr.*)..... 79.

### Scarborough Systems

Mastertype (*typing tutorial*) ..... 25.

\*according to the manufacturer.



# Back in the saddle!

**Swift and sure-footed.**

That's us. A thoroughbred team of Macintosh mail order experts dedicated to getting you the best Macintosh enhancements at the best prices. As fast as you can say "Giddap!"

You see, the trouble with some mail order companies is they don't have any roots. Ensnored, as we are, in the historic commercial zone of Marlow, NH (pop. 550), we're able to draw upon our vast heritage of New England mercantile experience.

Our ancestors sold lumber, tannery products, butter, cheese, maple

sugar, and cider. Back in those days, if you didn't give your customer good measure, he'd shoot you. So, long ago, we got into the habit of giving excellent value for the money, and advice for free.

## Watch your step.

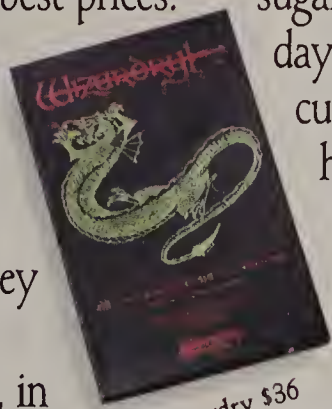
The road to the perfect Macintosh system may be paved with good intentions, but it's also fraught with the occasional pothole. Our experienced salespeople can tell which programs will work best for your business or

personal applications. And they'll be glad to help guide you through the complexities of connecting various peripherals to your Mac.

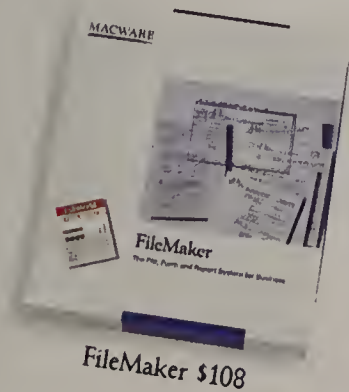
And, when it

comes to delivery, we never put the cart before the horse. Your order careens through our mainframe, into the shipping department and onto the courier's truck. Why, we can have an order halfway to Topeka in the same time it used to take the Marlow Stage to get to Gilsum.

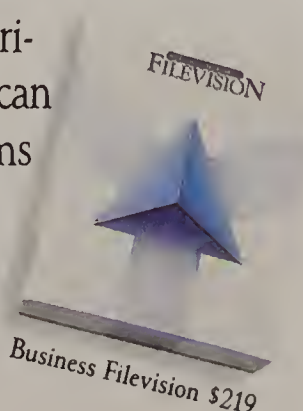
So next time you're thinking of massaging your Mac, try a horse of a different color. Talk to the specialists at MacConnection.



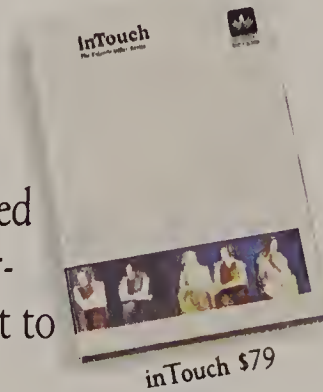
Wizardry \$36



FileMaker \$108



Business Filevision \$219



InTouch \$79

# MacConnection™

14 MILL STREET, MARLOW, NH 03456 1-800/Mac&Lisa or 603/446-7711

© Copyright 1985 Micro Connection, Inc. MacConnection is a division of Micro Connection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection Inc.



# the whole Mac and noth

<b>Sierra On-Line</b>		
✓MacOneWrite (cash disbursements)...	\$137.	
✓MacOneWrite (accounts receivable)...	137.	
<b>Silicon Beach Software</b>		
✓Accessory Pak 1 .....	24.	
<b>Simon &amp; Schuster</b>		
✓The Mac Art Department .....	24.	
Paper Airplane Construction Kit .....	24.	
Typing Tutor III .....	31.	
<b>SMB Development</b>		
MacMate (requires 512k) .....	35.	
<b>SoftStyle</b>		
Epstart .....	27.	
Jetstart .....	27.	
Toshstart .....	27.	
Tlstart .....	49.	
Laserstart .....	59.	
✓Decision Map .....	79.	
<b>Software Publishing</b>		
PFS:File/Report .....	100.	
<b>Springboard</b>		
✓Art a la Mac Vol. 1-People and Places .....	23.	
✓Art a la Mac Vol. 2-Variety Pack .....	23.	
<b>State of the Art</b>		
✓Electric Checkbook .....	45.	
<b>Symmetry</b>		
✓Quick Disk (requires 512k) .....	21.	
<b>T/Maker</b>		
✓Click Art Personal Graphics .....	29.	
✓Click Art Publications .....	29.	
✓Click Art Letters .....	29.	
✓Click Art Effects .....	29.	
✓ClickOn Worksheet .....	46.	
<b>Telos Software</b>		
✓Filevision (graphic filing program) .....	99.	
✓Business Filevision .....	219.	
<b>Think Educational</b>		
✓Mind Over Mac .....	29.	
✓MacEdge II (math & reading) .....	29.	
<b>Videx</b>		
✓MacCalendar (incl. reminder system)...	51.	
<b>Warner Software</b>		
The Desk Organizer .....	55.	
<b>GAMES</b>		
<b>Activision</b>		
Hacker .....	27.	
Mind Shadow .....	27.	
<b>Aegis Development</b>		
MacChallenger (flight simulation) .....	23.	
<b>Ann Arbor Softworks</b>		
Grid Wars .....	28.	
<b>Bantam Electronics</b>		
Sherlock Holmes: Another Bow .....	27.	
<b>Blue Chip</b>		
✓Millionaire (stock market) .....	\$30.	
✓Tycoon (commodities) .....	30.	
✓Baron (real estate) .....	30.	
✓Squire (personal finance, reqs. 512k)...	30.	
<b>BrainPower</b>		
✓Think Fast (improves recall) .....	23.	
✓Chipwits .....	26.	
<b>Broderbund Software</b>		
Lode Runner .....	24.	
Cyborg (sci-fi text adventure) .....	24.	
Ancient Art of War .....	27.	
<b>CBS</b>		
Murder by the Dozen .....	25.	
<b>Creighton Development</b>		
MacCommand .....	21.	
<b>Electronic Arts</b>		
One on One/Dr J vs Larry Bird (reqs. 512k) .....	27.	
<b>Epyx</b>		
Rogue (great graphics) .....	24.	
Temple of Apshai Trilogy .....	24.	
Winter Games .....	24.	
<b>Gamestar</b>		
Championship Star League Baseball ...	22.	
<b>Hayden Software</b>		
Masterpieces .....	24.	
Word Challenge II .....	24.	
Sargon III (9 levels of chess) .....	29.	
Perplexx .....	24.	
<b>Infocom</b>		
✓Seastalker (junior) .....	24.	
✓Cutthroats (standard) .....	24.	
✓Enchanter (standard) .....	24.	
✓Hitchhiker's Guide (standard) .....	24.	
✓Planetfall (standard) .....	24.	
✓Wishbringer (standard) .....	24.	
✓The Witness (standard) .....	24.	
✓Zork I (standard) .....	24.	
✓Zork II (advanced) .....	27.	
✓Zork III (advanced) .....	27.	
✓A Mind Forever Voyaging (advanced) ..	27.	
✓Infidel (advanced) .....	27.	
✓Sorcerer (advanced) .....	27.	
✓Suspect (advanced) .....	27.	
✓Deadline (expert) .....	29.	
✓Spellbreaker (expert) .....	29.	
✓Starcross (expert) .....	29.	
✓Suspended (expert) .....	29.	
Invisiclues (hint booklets) .....	6.	
<b>Magnum</b>		
✓Gypsy (the Computer Oracle) .....	23.	
<b>Mark of the Unicorn</b>		
✓Mouse Stampede (highly addictive) ...	23.	
<b>Miles Computing</b>		
Fusillade .....	\$21.	
✓MacAttack (3-D tank simulation) .....	27.	
✓Harrier Strike (3-D flight simulation) .....	27.	
<b>Mindscape</b>		
✓Racter (converse with your Mac!) .....	27.	
✓Balance of Power .....	30.	
✓Déjà Vu (murder mystery) .....	33.	
<b>Origin Systems</b>		
Exodus: Ultima III (fantasy adventure) ..	38.	
<b>PBI Software</b>		
✓Feathers & Space .....	21.	
✓Strategic Conquest .....	29.	
Fokker TriPlane Flight Simulator .....	35.	
<b>Penguin</b>		
✓Transylvania .....	24.	
Crimson Crown (sequel to above) .....	24.	
✓The Quest .....	24.	
✓Xyphus .....	24.	
<b>Priority Software</b>		
✓Forbidden Quest .....	24.	
✓Gateway (sci-fi fantasy adventure) .....	25.	
<b>Psion</b>		
Psion Chess (3D and multi-lingual) .....	31.	
<b>Scarborough Systems</b>		
Run for the Money .....	29.	
Make Millions .....	29.	
<b>Sierra On-Line</b>		
Frogger .....	24.	
Championship Boxing .....	24.	
Ultima II (role-playing adventure) .....	35.	
<b>Silicon Beach Software</b>		
Airborne! .....	21.	
Enchanted Scepters .....	24.	
<b>Sir-Tech</b>		
✓Mac Wizardry .....	36.	
<b>Spectrum Holobyte</b>		
GATO (submarine simulation) .....	26.	
<b>Telarium</b>		
Amazon .....	27.	
Dragon World .....	27.	
Fahrenheit 451 .....	27.	
<b>The Other Valley Software</b>		
Monkey Business (arcade action) .....	21.	
Delta Patrol (arcade action) .....	21.	
<b>Unicorn</b>		
✓Futura (sci-fi adventure) .....	24.	
✓Utopia (science fantasy game) .....	24.	
✓Animal Kingdom (ages 6-12) .....	27.	
Science and language arts program.		
✓Mac Robots (pre-school program) .....	27.	
<b>Videx</b>		
✓MacCheckers/Reversi .....	28.	
✓MacGammon/Cribbage .....	28.	
✓MacVegas .....	34.	

1-800/Mac&Lisa 560C

# MacConnection<sup>TM</sup>

MacConnection, 14 Mill Street, Marlow, NH 03456 800/622-5472 603/446-7711

© Copyright 1985 Micro Connection, Inc. MacConnection is a division of MicroConnection, Inc. MacConnection and Micro Connection are trademarks of Micro Connection, Inc.

All items subject to availability. Prices subject to change without notice.

\*Defective software replaced immediately. Defective hardware replaced or repaired at our discretion. Some items have warranties up to five years.

Circle 4 on reader service card



# ing but the Mac.

## HARDWARE

### Assimilation

Mac-Port-Adaptor.....	\$69.
Mac-Epson-Connection.....	75.
Mac-Daisywheel-Connection.....	79.
Mac-Turbo-Touch.....	79.
Numeric-Turbo.....	129.

### Compucable

Mac to Hayes Smartmodem cable.....	16.
Mac to Apple modem cable.....	16.
Mac to Hayes Transet 1000 cable.....	16.

### Cuesta Systems

Datasaver AC Power Backup (90 watts) call
---

### Curtis Manufacturing

Diamond (6 outlets).....	28.
Emerald (6 outlets; 6 ft cord).....	34.
Sapphire (3 outlets; EMI/RFI filtered) ...	44.
Ruby (6 outlets; EMI/RFI filtered; 6 ft cord)	50.

### Epson

AP-80 (Imagewriter compatible).....	call
FX-85.....	call
FX-185.....	call
LQ-1500 (letter quality dot matrix).....	call

### Ergotron

MacTilt (incl. external drive bracket)....	75.
--	-----

### Hayes

Smartcom II (communications software) ..	86.
Smartmodem 300.....	call
Smartmodem 1200.....	call
Smartmodem 2400.....	call
Transet 1000.....	call

### IOMEGA

Bernoulli Box (dual 10-megabyte storage)	2589.
10-Meg Cartridge.....	call
Head Cleaning Kit.....	call

### Kensington

External Disk Drive Cover.....	8.
Mouseway.....	8.
Mouse Pocket.....	8.
Mac Dust Cover.....	9.
Mac XL Dust Cover.....	9.
Imagewriter Dust Cover.....	9.
Wide Imagewriter Dust cover.....	9.
Mouse Cleaning Kit w/Mouse Pocket...	16.
Universal Printer Stand.....	17.
Disk Case (holds 36 Mac disks).....	19.
Disk Drive Cleaning Kit.....	19.
Tilt/Swivel.....	22.
Polarizing Filter.....	31.
Surge Suppressor.....	32.
Starter Pack (includes Tilt/Swivel).....	53.
A-B Box.....	60.
Control Center.....	61.

### Koala Technologies

KAT Graphics Tablet.....	139.
MacVision (digitizer).....	169.

### Kraft

QuickStick.....	45.
-----------------	-----

### Microsoft

MacEnhancer.....	159.
------------------	------

### Mitsuba

Super 5 External Drive.....	225.
-----------------------------	------

### Mouse Systems

A+ Optical Mouse.....	59.
-----------------------	-----

### N<sup>2</sup> Products

Mac to Modem cable (6 feet).....	19.
Mac to Printer cable (6 feet).....	19.
Mac to Transet 1000 cable (9 ft.).....	19.

### Paradise Systems

Mac 10 (10 megabyte hard disk).....	\$769.
Mac 20 (20 megabyte hard disk).....	1029.

### PBI Software

Switch Box.....	36.
-----------------	-----

### PKI

Sydewyndr.....	245.
----------------	------

### Systems Control

MacGard (surge protection).....	55.
---------------------------------	-----

### Thunderware

Thunderscan (graphics digitizer).....	175.
---------------------------------------	------

### Video 7

MouseStick.....	39.
-----------------	-----

## DISKS

BASF 3½" Disks (box of 5).....	12.
--------------------------------	-----

Sony 3½" Disks (box of 10).....	22.
---------------------------------	-----

Fuji 3½" Disks (box of 10).....	22.
---------------------------------	-----

MAXELL 3½" Disks (box of 10).....	22.
-----------------------------------	-----

Memorex 3½" Disks (box of 10).....	24.
------------------------------------	-----

Verbatim 3½" Disks (box of 10).....	24.
-------------------------------------	-----

3M 3½" Disks (box of 10).....	24.
-------------------------------	-----

## INFORMATION SERVICES

### Compuserve

Compuserve Information Service.....	19.
-------------------------------------	-----

### Source Telecomputing

The Source (subscription & manual) ...	30.
--	-----

## MISCELLANEOUS

### American Tourister

Mac Carrying Case.....	69.
------------------------	-----

### Automation Facilities

Floppyclene Drive Care Kit.....	20.
---------------------------------	-----

Floppyclene Drive Care Refill.....	10.
------------------------------------	-----

MacPak Complete Care System.....	29.
----------------------------------	-----

For your mouse, printer, and keyboard.

### Clean Image Ribbon Co.

Clean Image Ribbon Kit.....	12.
-----------------------------	-----

### Computer Coverup

External Disk Drive Cover.....	4.
--------------------------------	----

Imagewriter Cover.....	8.
------------------------	----

Wide Imagewriter Cover.....	8.
-----------------------------	----

Mac & Keyboard (two covers).....	10.
----------------------------------	-----

### Diversions

Underware Ribbon.....	10.
-----------------------	-----

ColorPack (includes Colorpens).....	19.
-------------------------------------	-----

### Environmental Software Company

The Clutch (holds 8 disks).....	9.
---------------------------------	----

### MACATTIRE

High quality rip-stop nylon dust covers.

Available in navy, burgundy, or silver-gray.

External Drive Cover.....	7.
---------------------------	----

Numeric Keypad Cover (fits Turbo Touch) ..	7.
--	----

Imagewriter Cover.....	11.
------------------------	-----

Imagewriter 2 Cover.....	11.
--------------------------	-----

Wide Imagewriter Cover.....	13.
-----------------------------	-----

Mac & Keyboard Cover.....	15.
---------------------------	-----

Laserwriter Cover.....	17.
------------------------	-----

Mac XL & Keyboard Cover.....	20.
------------------------------	-----

### I/O Design

Imagewriter Color Transfer Ribbon ..	\$10
--------------------------------------	------

Imageware.....	45.
----------------	-----

Imageware wide.....	49.
---------------------	-----

Macinware.....	59.
----------------	-----

### Innovative Concepts

Flip & File Micro(holds 25 disks).....	9.
--	----

Flip & File (holds 40 disks).....	18.
-----------------------------------	-----

### Innovative Technologies

The Pocket Pak (holds 6 disks).....	10.
-------------------------------------	-----

The Easel (holds 20 disks).....	14.
---------------------------------	-----

### Kalmar Designs

Teakwood Roll-top Case (holds 45 disks) ..	14.
--	-----

Teakwood Roll-top Case (holds 90 disks) ..	21.
--	-----

### Magnum

Mouse Mover.....	14.
------------------	-----

### Microsoft Press

Microsoft Multiplan: Of Mice and Menus ..	13.
---	-----

Midnight Madness.....	14.
-----------------------	-----

The Printed Word.....	14.
-----------------------	-----

Apple Mac Book Vol. 2.....	15.
----------------------------	-----

Macinations (intro to Basic).....	16.
-----------------------------------	-----

Excel in Business.....	18.
------------------------	-----

### Moustrak

Moustrak Pad (standard 7"x9").....	8.
------------------------------------	----

Moustrak Pad (large 9"x11").....	9.
----------------------------------	----

Imagewriter Pad.....	12.
----------------------	-----

### Pacific Wave

Flip Sort Micro (holds 60 disks).....	15.
---------------------------------------	-----

### Ribbons Unlimited

Imagewriter Color Ribbons.....	5.
--------------------------------	----

Imagewriter Ribbons Six Pack.....	27.
-----------------------------------	-----

Imagewriter Rainbow Six Pack.....	27.
-----------------------------------	-----

## OUR POLICY

- We accept VISA and MASTERCARD.
- No surcharge added for charge cards.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All shipments insured; no additional charge.
- Allow 1 week for personal and company checks to clear.
- UPS Next-Day-Air available.
- COD max. \$1000. Cash or certified check.
- 120 day limited guarantee on all products \*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday thru Friday 9:00 to 5:30.

## SHIPPING:

**Continental US:** For printers and drives add 2% for UPS ground shipping (call for UPS Blue or UPS Next-Day-Air). For all other items, add \$2 per order to cover UPS shipping. We will automatically use UPS 2nd-Day-Air at no extra charge if you are more than 2 days from us by UPS ground. **Hawaii:** For printers and drives actual UPS Blue charge will be added. For all other items, add \$2 per order. **Alaska and Outside Continental US:** Call 603/446-7711 for information.



# Five Easy Pieces

**Gordon McComb**

*Most people work on their computers for a few selected chores. Here's the way to configure disks dedicated to five common tasks: managing personal finances, word processing with graphics, designing graphics with text, preparing financial reports, and maintaining a database with graphics.*

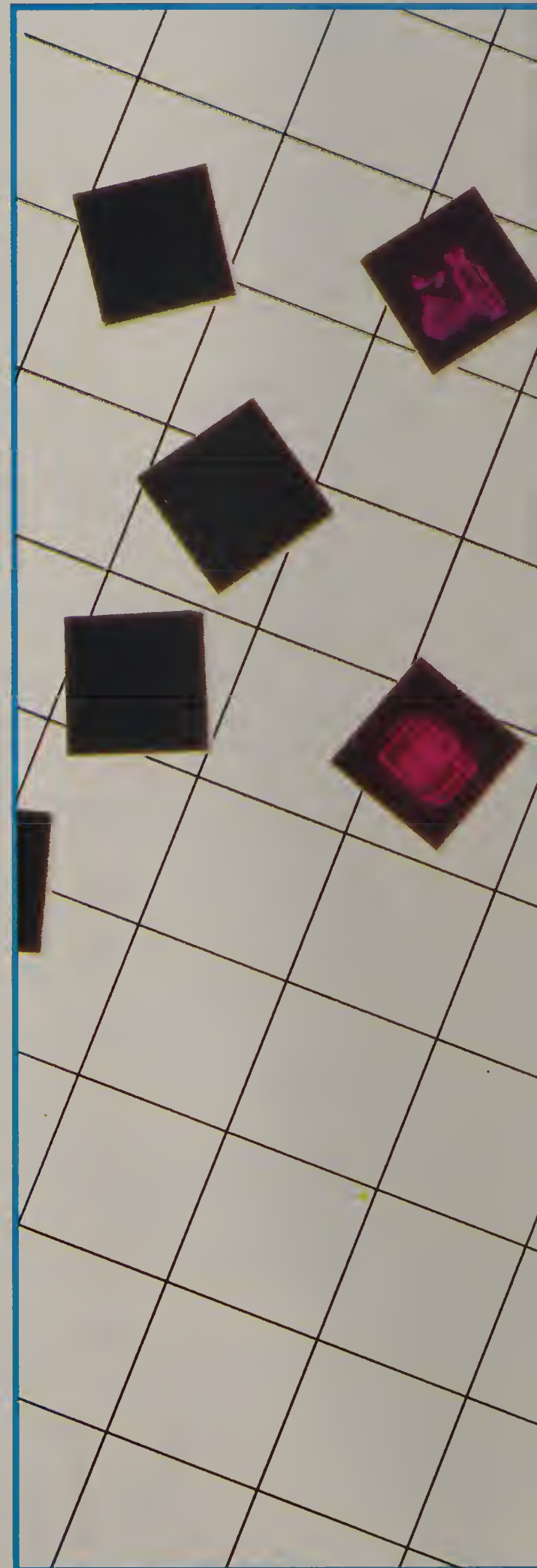
When I first got my Macintosh, I eagerly tried every software package I could get my hands on. Into the thirsty disk drive went database managers, spelling checkers, communications programs, font assortments, and other programs. Alas, those days of blissful experimentation are over. Though I still think that using the Mac is fun, I don't have the time to play anymore. I now use the Mac for—horrors!—work.

After countless hours with the Macintosh, I find that I use it for a handful of core tasks that I perform on a regular basis, using a limited set of programs. To save time, I've developed a set of disks specifically designed for my core tasks. With these custom disks, I avoid the disk swapping necessary when switching from one work disk to another, and I have all the tools I need for a specific task within easy grasp.

## **Some Guidelines**

You'll want to consider a few tips when you design your own task-specific disks. As much as possible, keep your applications on a single disk, even if you have an external disk drive. Often you need the second drive for capturing data files or for switching to other work disks when you're through with one job and starting another. Of course, applications like *Jazz*, *PageMaker*, and *Excel* require two disks.

Because setting up a task-specific disk involves combining two or more applications on a disk, your









biggest consideration is limited disk space. Even with double-sided disk drives, fitting the applications you need for a given task within 400K is a useful discipline. The additional space available with double-sided disks can be set aside for additional applications or data files.

You can free some disk space by removing extraneous fonts and desk accessories from the System file using a utility such as Apple's *Font/DA Mover*. You can also substitute desk accessories for full-fledged applications. As a final measure, you can remove some critical system files, like the Imagewriter or Finder file. Several desk accessories mimic the main functions of the Finder and take less disk space; however, by removing the Finder, you give up the Mac desktop. If you remove the Imagewriter file, you can't print documents with that disk. When you are ready to print, you can use the original program disk, with its Imagewriter file intact.

Another problem you'll encounter in setting up your disks is copy protection. Many Macintosh applications are copy protected, which prohibits you from easily making extra work disks. Backup utilities, such as *CopyII Mac* and *MacBackup*, allow you to copy most of these programs onto your task-specific disks. Because of the way most copy-protection schemes work, though, you may not be able to fit two or more protected applications on a single disk. Remember that you can legally make a backup copy of a copy-protected program only if you own the original.

I've used a variety of programs in my sample disks, including commercial, public-domain, and user-supported products. (User-supported software is distributed free for a tryout. You pay for it on the honor system if the product suits you.) In each case my purpose was to create a disk that provided the maximum amount of flexibility and freedom at a reasonable cost. If you don't have some of the programs I specify and you don't want to invest in them, don't fret. Feel free to substitute other programs.

When you construct your own disks, be on the lookout for what I call program interaction. Like a patient under medication, the Macintosh may suffer adverse reactions to certain combinations of software. If the Mac doesn't behave like it should, experiment until you find the right combination.

### The Fine-Tuned 400

I've configured five disks, each designed for a core task. You can use my sample disks as is to pattern your own, or you can modify them as you see fit. The five disks are:

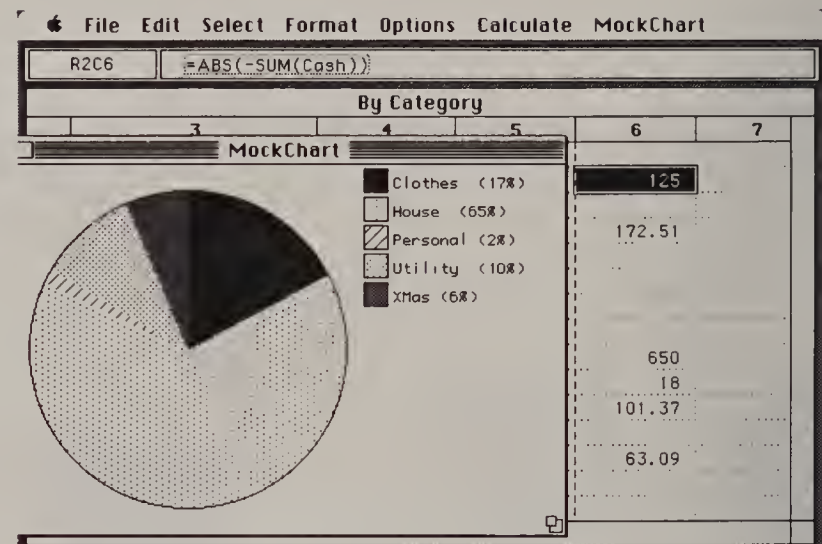
*Personal Finance*. For keeping tabs on a checkbook account and tracking a household budget.

*Text with Graphics*. For typing and printing letters, memos, and reports, with or without illustrations.

*Graphics with Text*. For preparing a flyer, an illustrated brochure, a newsletter, or other graphics-based documents.

*Corporate Finance*. For generating monthly financial statements, balance sheets, and other reports.

*Inventory with Graphics*. For keeping a picture-based parts inventory.



### Personal Finance

The MockChart desk accessory graphically represents your income and expense patterns based on figures in the Multiplan worksheet. To create this pie chart, sort the worksheet by expense categories and calculate the total in each category. Then paste the category names and totals into MockChart.

## Personal Finance

**Application:** Microsoft Multiplan. **Desk Accessories:** Control Panel, MockChart, QuickSet Financial Calculator, Scrapbook, Super Note Pad. **Fonts:** Chicago 12, Geneva 9, Monaco 9, New York 12, Seattle 10, Seattle 20. **Requirements:** 128K, Finder version 1.1. **Free Space on Disk:** 63K.

Unless you're independently wealthy and hire an accountant to juggle your money, balancing your checkbook is a regular chore.

The Personal Finance disk uses *Microsoft Multiplan* to record checks and other transactions for a single checking account. Use additional worksheets for other accounts. The worksheet provides a running balance, can be updated at any time, and can be sorted by date, check number, payee, or category. Incidentally, I used *Multiplan* because I had it around. You can substitute a dedicated personal-finance or checkbook program if you like.

To get a picture of earning and spending habits, I included the MockChart desk accessory, which creates line, column, and pie charts based on data you paste in from the *Multiplan* worksheet. As a time saver, I included the Financial Calculator from EnterSet for one-time-only calculations that are too much trouble to do in *Multiplan*.

Because checkbook transactions start to look the same after a few months, I added Super Note Pad, from Dreams of the Phoenix's *Quick and Dirty Utilities*, to the disk for notes. The Super Note Pad holds 20 pages of 800 characters each and has an index page so you can easily locate entries.



I removed the Multiplan Help file, along with extraneous fonts and accessories. Space is left on the disk for several large *Multiplan* data files, or you can use a separate data disk if you have an external disk drive.

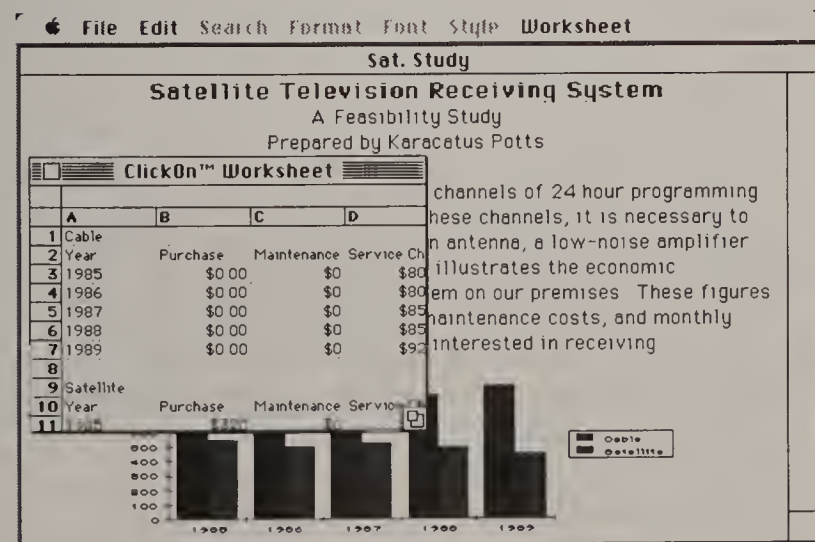
## Text with Graphics

**Applications:** *MacWrite 4.5, Microsoft Chart.* **Desk Accessories:** *Art Grabber, ClickOn Worksheet, Extras, Scrapbook.* **Fonts:** *Chicago 12, Geneva 9, Geneva 12, Geneva 14, New Haven 24, New York 12.* **Requirements:** 128K, external disk drive, no Finder. **Free Space on Disk:** 28K.

If you write letters or reports and often find yourself combining text with illustrations and charts, you should design a combination word processing and graphics work disk.

*MacWrite* and *Chart* together don't fit easily on a disk, even with most fonts and accessories removed. On this disk I removed the Finder to gain the disk space required by both applications. Although you gain the space you need, you lose the desktop, which the Finder provides. If you can't do without the desktop and don't require high-powered charting capabilities, you could use *MockChart* or a similar desk accessory instead of *Chart*.

Since *MacWrite* is the primary application, I renamed it Finder so that whenever this disk starts the Macintosh, *MacWrite* loads automatically. *MacWrite* is renamed Finder for another reason: quitting an application on a disk that doesn't contain the Finder causes the Mac to fail. To delete the Finder, you need to start the Mac with another disk. Throw away the Finder on your work disk and then rename *MacWrite* as the Finder. *MacWrite* disguised as the Finder cannot be renamed. You have to throw it away if you no longer want it.



### Text with Graphics

*ClickOn Worksheet* tallies figures for use in *Microsoft Chart*. Once the *Chart* graphic is pasted into *MacWrite*, it can be centered or resized. Though the graphic is not affected by resizing, text within the chart is scaled, which can look awkward.

You use the Extras desk accessory's Set Quit File command to switch to *Chart* (quitting from *MacWrite* brings you back to *MacWrite*, since the Mac thinks it's the Finder). I couldn't use *SkipFinder*, another desk accessory that lets you bypass the Finder, because it doesn't work when the Finder is missing.

To create a typical report, write the text in *MacWrite*, save the document on a data disk, and then switch to *Chart* to create graphics. Cut and paste the graphics into the report using the Copy Chart command on *Chart*'s File menu. *ClickOn Worksheet* is included in case you need to do calculations.

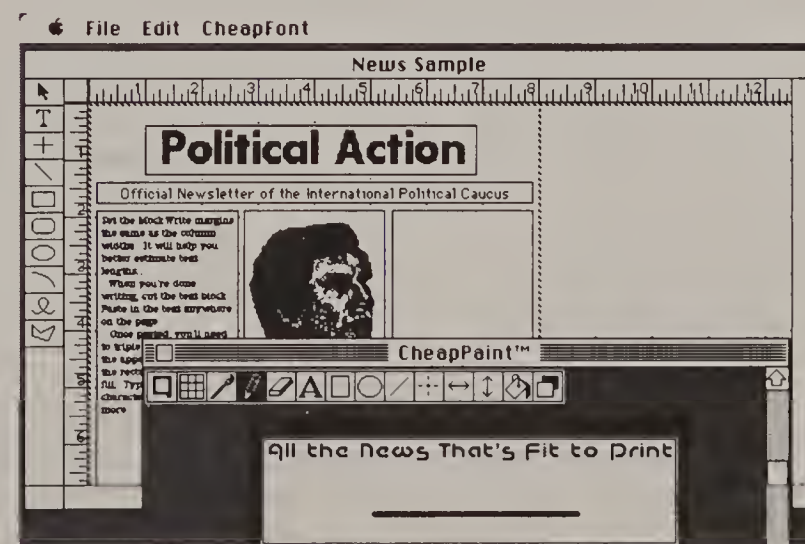
To use an existing *MacPaint* illustration, put it on the data disk and use *Art Grabber* to snatch the portion of the picture you want. If you need to create illustrations in *MacPaint*, substitute *MacPaint* for *Chart* or put a copy of *MacPaint* without System files on the data disk.

## Graphics with Text

**Applications:** *MacDraw, EnhanceVision.* **Desk Accessories:** *Art Grabber, CheapPaint, MacVision, MockWrite, Multi-Scrap, SkipFinder.* **Fonts:** *Chicago 12, Cupertino 12, Geneva 9, Geneva 12, Geneva 18, Monaco 9, New York 9, New York 12, Oxford 36.* **Requirements:** 128K (512K recommended), Finder version 4.1, *MacVision* digitizer. **Free Space on Disk:** 52K.

If you produce flyers, brochures, or newsletters, but not often enough to make a page-makeup program a worthwhile investment, you could create a graphics-with-text work disk.

(continues on page 84)



### Graphics with Text

*MacDraw* can position text or graphics anywhere on the page. You can view the whole page by choosing the Reduce or Reduce to Fit command. *CheapPaint*, a desk accessory that lets you edit pictures from the Scrapbook, complements programs like *MacDraw*, which can't create or edit bit-mapped graphics.



## Pick Up the Pieces

### Apple Computer

20525 Mariani Ave.  
Cupertino, CA 95014  
408/973-3317  
MacDraw \$125, MacTerminal  
\$99, the Switcher \$19.95

### Batteries Included

30 Mural St.  
Richmond Hill, Ontario  
L4B 1B5 Canada  
416/881-9941  
Battery Pak (includes Calendar,  
Launcher, Phone Pad, and  
Scientific Calculator) \$49.95

### CE Software

801 73rd St.  
Des Moines, IA 50312  
515/224-1995  
MockChart, MockWrite, and  
MockTerminal \$30, or send  
\$25 to CE Software if you al-  
ready have copies and  
choose to keep them

### Central Point Software

9700 S.W. Capitol Hwy. #100  
Portland, OR 97219  
503/244-5782  
CopyII Mac \$39.95

### Dreams of the Phoenix

P.O. Box 10273  
Jacksonville, FL 32247  
904/396-6952

Quick and Dirty Utilities Vol-  
ume One (includes Super  
Note Pad) \$39.95

### EnterSet, Inc.

410 Townsend St. #408  
San Francisco, CA 94107  
415/543-7644  
QuickSet (includes Financial  
Calculator) \$99, QuickPaint  
\$49.95

### Hayden Software Co.

600 Suffolk St.  
Lowell, MA 01854  
617/937-0200  
Art Grabber \$49.95, MacroMind  
Utilities Disk (including  
CheapPaint) \$99.95

### Koala Technologies Corp.

2065 Junction Ave.  
San Jose, CA 95131  
800/562-2327  
MacVision with EnhanceVision  
\$399.95

### Bob Luce

324 E. Shaw  
Fresno, CA 93710  
Extras free trial, \$10 if you keep  
a copy

### Microsoft

10700 Northup Way  
Bellevue, WA 98009  
206/828-8080

Chart \$125, Excel \$395, File  
\$195, Multiplan \$195

### Practical Computer Applications

1305 Jefferson Hwy.  
Champlin, MN 55316  
612/427-4789  
MacBackup \$69.96

### Silicon Beach Software

9580 Black Mountain Road,  
Ste. E  
San Diego, CA 92126  
619/695-6956  
Accessory Pak 1 (includes Paint  
Cutter) \$39.95

### T/Maker Co.

2115 Landings Dr.  
Mountain View, CA 94043  
415/962-0195  
ClickOn Worksheet \$79.95

### Thunderware

21 Orinda Way  
Orinda, CA 94563  
415/254-6581  
ThunderScan \$229

### From user groups:

Multi-Scrap (public domain)  
SkipFinder (Darin Adler)

(continued from page 83)

Use *MacDraw* to construct the basic layout of your document. If you need digitized art, use the MacVision digitizer and desk accessory to capture pictures from within *MacDraw*. For more unusual effects, like outlined or zebra-striped pictures, quit *MacDraw* and use *EnhanceVision*. If you're not using a digitizer, delete MacVision and the *EnhanceVision* program and substitute an application such as Silicon Beach's Paint Cutter, which lets you cut and paste whole *MacPaint* documents.

*Art Grabber* opens any *MacPaint* document. You can save graphics that you use often from *MacPaint* or *MacDraw* into the *Multi-Scrap* desk accessory, which works like the original Scrapbook but lets you keep scrapbooks on several disks.

Similar to *MacPaint*, the CheapPaint desk accessory lets you draw freehand graphics and includes a multitipped brush, a pencil, and an eraser. CheapPaint also lets you alter any picture in a Scrapbook. One caveat: Scrapbooks created by *Multi-Scrap* can have any name, but CheapPaint can open only the one called Scrapbook File.

*MacDraw* lets you write text anywhere on its drawing surface. The MockWrite desk accessory is included to ease text entry. MockWrite lets you write long passages of text or import text saved in Text Only format from word processing documents. You can then paste the text into *MacDraw*. (*MacDraw* has an annoying bug that shows up when you paste text into objects. Be sure to read the addendum to the *MacDraw* manual.)



## Corporate Finance

**Applications:** *Microsoft Excel, MacTerminal, the Switcher.* **Desk Accessories:** *Battery Pak Calendar, Choose Printer (from your System Folder), Extras, MockWrite, Phone Pad, Scientific Calculator.* **Fonts:** *Chicago 12, Geneva 9, Geneva 12, Monaco 9, New York 12, New York 14.* **Requirements:** 512K, external disk drive, Finder version 4.1. **Free Space on Disk:** 82K.

With the Macintosh and some planning, you can generate monthly financial statements, balance sheets, and other company reports by typing only a few keystrokes. *Microsoft Excel* keeps tabs on finances and automates most of the entry and calculation procedures.

Because *Excel* is on two disks, I left the program disk alone. From the startup and data disk, I removed unnecessary fonts and desk accessories, as well as the *Excel* Help file, which takes up 71K. In their stead I installed *MacTerminal* (for capturing financial data from a mainframe or from a co-worker's personal computer), the *Switcher*, and several desk accessories. *MockWrite* is included to help you edit text downloaded in *MacTerminal*, and *Scientific Calculator* allows you to make quick computations without using *Excel*. *Phone Pad* features an automatic dialer as well as space for notes.

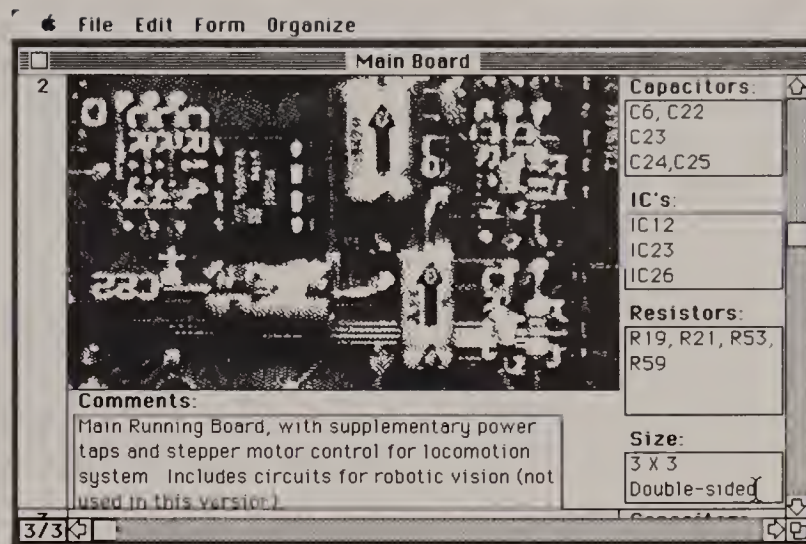
To use the disk, start the *Switcher* and load both *MacTerminal* and *Excel*. Configure *Excel* to 256K, not 304K. Save the set of programs for future use. Rotate to *Excel* and construct a template worksheet that includes the proper format, headings, cell alignments, and formulas for your report. Leave the cells that will hold the numerical data blank.

Now switch to *MacTerminal*. Make the call and collect the data. Hang up the phone, select the figures you want, and then choose the Copy Table command from the Edit menu. Finally, switch back to *Excel*, select the first cell for the data, and paste. Because you copy the data in tabular format with *MacTerminal*, each number goes into a separate cell.

Should the format of the data change each time you make a report, you may need to write an *Excel* macro to do some of the work for you (see "Take the Macro Shortcut," *Macworld*, December 1985). You could, for example, construct a macro that would draw a line or bar chart to help you analyze the information. You could also construct macros to merge the worksheet data into a database so you can find individual entries and to establish a print range and new font before generating the final report.

## Inventory with Graphics

**Applications:** *Microsoft File, ThunderScan.* **Desk Accessories:** *Launcher, QuickPaint, Scrapbook.* **Fonts:** *Chicago 12, Geneva 9, Geneva 12, Monaco 9, New York 9, New York 12.* **Requirements:** 512K, external disk drive, Finder version 4.1, *ThunderScan* digitizer. **Free Space on Disk:** 44K.



### Inventory with Graphics

*Microsoft File* lets you adjust the size of the picture field. Because digitized graphics take up so much disk space, you can store only about 200 records on a 400K disk.

With a database application that accepts pictures, such as *Microsoft File*, you can construct graphics-based inventories—for example, of automotive spare parts. This disk combines *File* with the *ThunderScan* digitizing program. If you use another digitizer, substitute its program for the *ThunderScan* software.

The *Launcher* desk accessory, part of the *Battery Pak* assortment, makes it easy to switch quickly between *File* and the *ThunderScan* program. I didn't use the *Switcher* because it takes up too much RAM, which is in short supply when you're working with graphics in *File*.

*QuickPaint* allows you to open *MacPaint* documents from within any application and to cut and paste any part of the document. In addition, *QuickPaint* lets you erase portions of the picture.

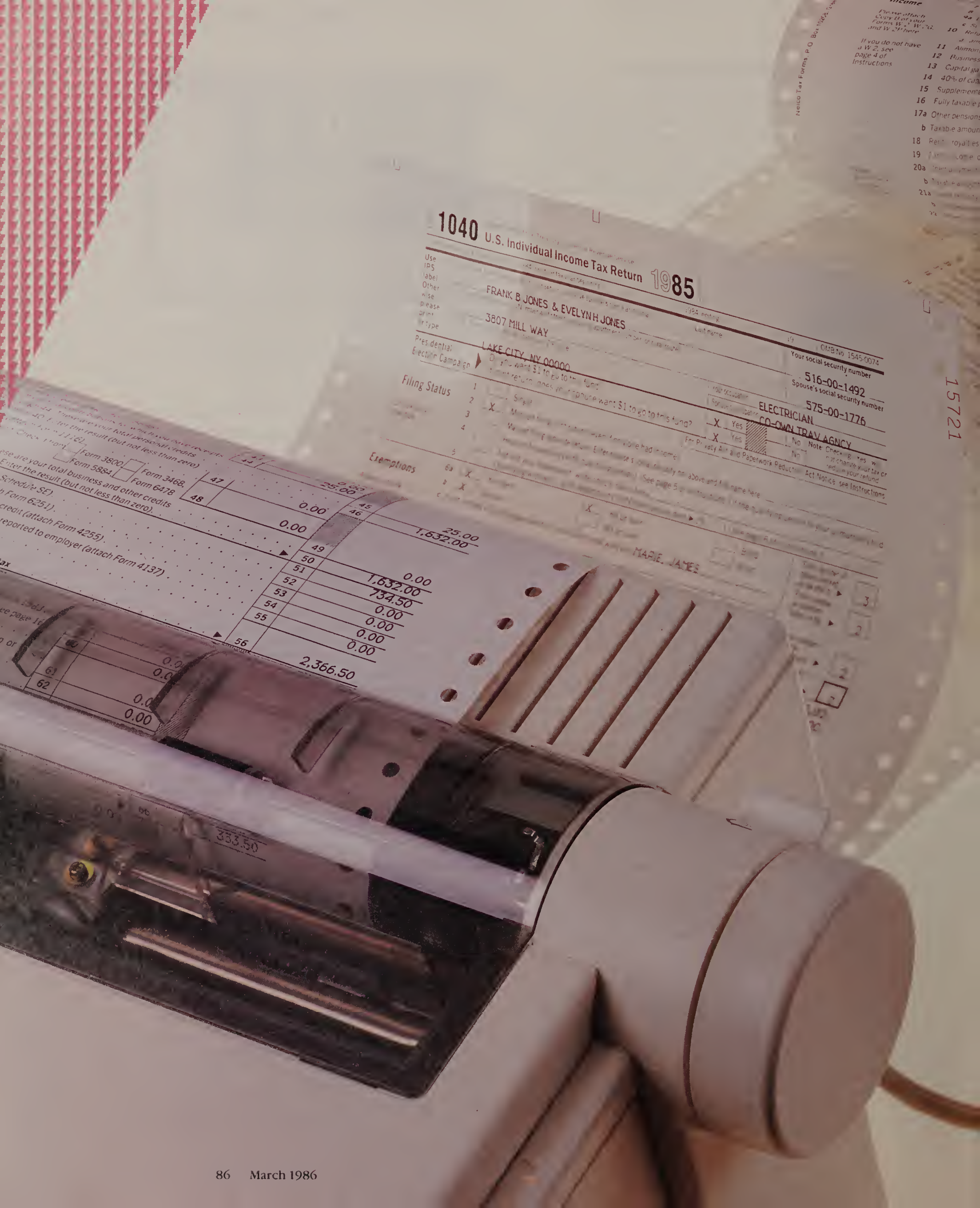
Paste the *MacPaint* pictures into *File* as you fill out the database form. Pull out *QuickPaint*, open the document that holds the digitized picture you want, select it, and then paste it into *File*. If you use the same picture for several entries, keep a copy of it handy in the *Scrapbook*.

### Roll Your Own

These are only five examples of customized, task-specific disks. Thousands of other configurations are possible. Perhaps you've come up with a work disk of your own to fit the core tasks you perform on the Macintosh. Why not share it with others? If you have a custom disk that helps you work more efficiently, submit a description of it and an explanation of how you use it to *Macworld*, 555 De Haro St., San Francisco, CA 94107. From time to time the magazine will publish the most interesting and useful designs in the *Open Window* column. □

★★★★★ Gordon McComb is a Contributing Editor of *Macworld*.





1040 U.S. Individual Income Tax Return 1985

FRANK B JONES & EVELYN H JONES

3807 MILL WAY

LAKE CITY, NY 00000

Presidential  
Election Campaign

Filing Status

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

2



# Taking Care of Taxes

**Steve Mann**

It was Ben Franklin who first remarked that only two things are inevitable—death and taxes. In reality, some people manage to avoid paying taxes altogether. For the rest of us, it helps to have some tools to simplify the job of tax preparation. There are several useful tax-preparation products available for the Macintosh. These products don't help you organize your finances or plan for future taxes, but they do make it easier to complete your tax return so that you can send your check or check request to Uncle Sam on time.

In this review I examine five tax-preparation products: two stand-alone programs—SoftView's *MacInTax* and Gamma Productions' *TaxWizard*—and three *Multiplan* templates—FutureVest's *TaxPlan*, EZWare's *Tax-Prep*, and Mac Products' *Tax Master*. At press time the 1985 versions were unavailable because the government had not yet released final 1985 tax requirements. I used each product in its 1984 version with a straightforward test case. The new versions are essentially the same, though updated to 1985 IRS requirements.

All the products tested help you prepare your taxes by performing the appropriate calculations on information you enter. The products prevent arithmetic errors and let you prepare your taxes without re-

ferring to tax tables. One of the programs goes so far as to print out a full set of IRS-approved documents that you can simply mail to a regional tax center. Other products require you to copy every number from printed reports onto IRS forms. These five products are appropriate for individuals, but they are not fast enough and their data-entry methods are not easy enough for professional tax preparers.

Whichever tax product you use, you must first collect all your receipts and tax-related financial records and sort them into tax categories. You must then total each category and enter the totals into one of the programs. Finally, depending on the program you use, you either print a set of tax forms or transfer the program's results to IRS-approved tax forms. You should always double-check your completed tax forms before sending them in, since you can be reasonably certain that the IRS will take a look at them. Also, consult a tax professional or CPA if you are unsure about any portion of your tax filing.

There are two kinds of Macintosh tax-preparation products: stand-alone programs and spreadsheet templates. The stand-alone programs are easier to use, but



the templates can be modified to reflect special circumstances that enter your tax picture. I'll first examine the two self-contained programs—*MacInTax* and *TaxWizard*.

### MacInTax

*MacInTax* is a new product designed exclusively for the Macintosh. The 1984 edition had only one module, *MacInTax* Federal. It handles a variety of forms and schedules suitable for most individuals (see "Forms and Schedules").

*Stand-alone programs are easier to use, but the templates can be modified to reflect your tax picture.*

*MacInTax* takes advantage of the Mac's graphics strength to display forms on screen that are just like the ones from the IRS (see Figure 1). You can have several windows open at once, and a change in one form is automatically reflected in other forms. For instance, if you change your itemized deduction amounts, *MacInTax* automatically recalculates your tax liability and updates the 1040 form to reflect the new information.

*MacInTax*'s use of familiar forms makes the program easy to use. Furthermore, *MacInTax*'s graphic design lets you print all completed forms in an IRS-approved format—the only product I tested that lets you avoid the nuisance of transcribing 1040 results to another form. You can also print onto an IRS form if you like, but it's not necessary.

To move between items in *MacInTax*, you use either the Tab and Return keys or the mouse. The forms scroll automatically as you enter information. *MacInTax* lets you use most of the Macintosh editing capabilities, including Cut, Paste, and Clear.

*MacInTax* has a thorough on-line help feature. For every line on any form, you can call up a description that almost duplicates IRS instructions word for word, so you don't need to keep the IRS booklets handy. You can call for help text by double-clicking any line of a form or by choosing Help from the Edit menu. The program usually takes a few seconds to display Help text; otherwise, *MacInTax* is reasonably fast.

One nice extra of the program is that it lets you itemize the figures behind any numeric value on a tax form. For instance, if you worked for several employers during the year, you can build a gross wages itemization list that includes a separate line for each W-2 form. *MacInTax* automatically adds the items and inserts the total into your 1040 form.

## Forms and Schedules

Form/ Schedule	MacInTax	Tax- Wizard	Tax-Prep	TaxPlan	Tax Master
1040EZ	Yes	Yes			
1040A	Yes	Yes			
Schedule 1	Yes	Yes			
1040	Yes	Yes	Yes	Yes	Yes
Schedule A	Yes	Yes	Yes	Yes	Yes
Schedule B	Yes	Yes	Yes	Yes	Yes
Schedule C		Yes	Yes	Yes	Yes
Schedule D	Yes	Yes	Yes	Yes	Yes
Schedule E	Yes	Yes	Yes	Yes	Yes
Schedule F			Yes	Yes	
Schedule G	Yes	Yes	Yes	Yes	
Schedule R			Yes	Yes	
Schedule SE		Yes	Yes	Yes	Yes
Schedule W	Yes	Yes	Yes	Yes	Yes
2106		Yes	Yes	Yes	Yes
2119	Yes	Yes	Yes	Yes	
2210			Yes		
2441	Yes	Yes	Yes	Yes	
3468		Yes	Yes		
3903		Yes	Yes	Yes	
4137		Yes			
4562		Yes	Yes		
4564				Yes	
4684			Yes		
4797			Yes		
5695		Yes	Yes		
6251		Yes	Yes	Yes	
New York State					
IT-201				Yes	
IT-250				Yes	

### Forms and Schedules

Each product includes a different combination of forms and schedules. Check the table to make sure products you're considering include the forms necessary for your tax preparation requirements. Also check the 1985 versions, which may offer additional forms and features.



The program's only major shortcoming is the omission of Schedule C—Profit (or Loss) from Business or Profession. This schedule, a must for anyone who is independently employed, is promised for the 1985 version. Another minor problem is that while *MacInTax* checks for missing or incorrect information, it doesn't immediately tell you what the exact problem is if it finds an error. You have to close and reopen the tax return in order to get explicit error messages.

Overall, *MacInTax* is an excellent program. When measuring the program against your requirements, investigate new features SoftView has added to the 1985 version. Planned improvements include a business supplement that contains additional forms, worksheets, and schedules, and a companion package that computes California state taxes—a nice bonus. Pre-release plans for *MacInTax* 1985 also called for batch printing and for supporting IRS-approved LaserWriter output for all forms and schedules.

**TaxWizard**

*TaxWizard* is another stand-alone tax-preparation program—the fastest of the five products I tested. The program displays each IRS form in its own window, but it displays only one open window at a time. Unlike *MacInTax*, this program mimics the IRS format in neither data entry layout nor final output. Each window shows a collection of IRS document line numbers, brief descriptions, and fields for entering data where appropriate (see Figure 2).

The program is completely devoid of graphics, extra fonts, or other visual clues that might help you find desired parts of a form quickly. You actually have to read each line number and description to find the correct data-entry fields. Having a copy of the IRS forms nearby helps. The printed results, which are almost as simple, must be manually transferred to the appropriate IRS forms. Gamma planned to include IRS-approved printouts in the 1985 version.

*TaxWizard*'s plainness, however, contributes to the program's speed, because there aren't any detailed graphics to draw when updating the window display. Data entry, scrolling, and report printing are quick and simple.

As you enter new information, most of the appropriate forms and schedules are automatically updated. You may have to recalculate the completed tax return, depending on the order in which you enter data, but that is a simple operation.

*TaxWizard* has a few user-interface anomalies. The Edit menu does not conform to the Macintosh standard. Tab and Return move you down through a form, but Shift-Tab and Shift-Return do not move you up; the Backspace key does. To clear a field, you have to type over or backspace over each character. Finally, the program does not automatically scroll when you attempt to enter data past the bottom of the screen; the cursor simply disappears from sight. Gamma Productions representatives say automatic scrolling is included in the 1985 edition.

I found one very strange, but minor, problem in *TaxWizard*. There is a window called Personal Data in which you enter your name, address, and other information. This information is automatically included on all forms and schedules. Whenever I entered a character into this window, or clicked the mouse in the window, a character printed out on the Imagewriter.

**Figure 1**  
*MacInTax is the only product that can print an IRS-approved 1040 form. By taking full advantage of the Macintosh's graphics capabilities, the program displays and prints forms that bear a remarkable resemblance to official IRS forms.*

**Figure 2**  
*Although TaxWizard is the fastest product tested, it creates forms that have a plain appearance both on screen and when printed. This makes the program more difficult to understand, since it doesn't take advantage of your familiarity with official IRS forms. The program's speed makes it appropriate for preparing multiple returns.*



You should consider *TaxWizard* if calculation and printing speed are important to you, especially if you intend to prepare multiple federal returns. *TaxWizard* includes several specialized forms and schedules that you may require. Finally, the program has good on-line help, which somewhat ameliorates the absence of visual clues that would make the program easier to use.

### The Multiplan Kids

Macintosh *Multiplan* tax templates do essentially the same things, with varying degrees of success, as the stand-alone tax programs. The three templates I review—*Tax-Prep*, *TaxPlan*, and *Tax Master*—have several features in common, which is natural because they are all based on *Multiplan*. They are distinguished from stand-alone programs by their relatively easy methods for entering data and by the degree to

*Each template requires that you take steps to keep all forms and schedules consistent with one another.*

which the different forms within the template can link with one another. In addition, each product has its own method for handling printing restrictions.

There are several inherent limitations to all commercial *Multiplan* templates. The most noticeable is processing speed. *Multiplan* is no racehorse, and all three tax templates are noticeably slower than the two stand-alone programs I reviewed.

*Multiplan* provides only limited control over screen and print formatting. A form's appearance on screen is restricted to *Multiplan*'s uninviting column-and-row grid, making data entry problematic. Typically, you cannot see a form's complete layout, forcing you to tab back and forth through the form to view its contents. When you're ready to enter data into an active cell, often you can't see the description for that cell. Furthermore, the display formats don't look much like their IRS equivalents, making it difficult to recognize items within the form.

For tax purposes, *Multiplan*'s error handling is limited compared with the self-contained tax programs. Each of the three companies has protected its templates so that you can enter data only into certain cells. Unfortunately, you can't always tell which cells are the right ones. You may find yourself tabbing back and forth in search of the next unprotected cell. You

can deal with this problem by using a shortcut *Multiplan* provides that lets you move directly to the next unprotected cell.

Finally, *Multiplan* can't keep all the forms and schedules for a complete tax return in memory at once. Each product requires that you take steps to guarantee that all the forms and schedules are updated and consistent with each other. You have to fill out forms in a specific order and perform at least one calculation just to make sure all forms are up-to-date.

### Tax-Prep

*Tax-Prep* provides more forms than the other *Multiplan* templates and uses the most automatic linking scheme. *Tax-Prep* links all the forms together so that you usually have to enter information only once. You load each form one at a time, fill in the appropriate fields, save the form, and then load the next one (see Figure 3). You have to be careful about the order of recalculation in order to guarantee that all your data is up-to-date, but the documentation takes pains to describe the correct procedure.

For all but form 1040, *Tax-Prep* prints IRS-approved forms. There are two ways to produce a finished 1040. You can print the results on a preprinted 1040 from the IRS, but this method is a little tricky because it is difficult to align the paper properly. If you have access to a photocopying machine, it's probably easier to print the results on a blank sheet of paper, superimpose a clear plastic 1040 overlay, and photocopy the combination. *Tax-Prep* comes with a 1040 overlay and a set of ten fanfold 1040 forms.

*Tax-Prep* includes a form called XCHECK that is designed to help you guarantee the production of a complete tax return. Unfortunately, the documentation explains only sketchily how the XCHECK works. Other than this omission, *Tax-Prep*'s documentation is reasonably good.

EZWare had ambitious plans for the 1985 version of *Tax-Prep*. The company planned to offer the template for both *Multiplan* and *Excel*. In addition to the basic *Tax-Prep* module, also look for state income tax templates for California, New Jersey, New York, and Pennsylvania, as well as a version for corporate income taxes and another tax-planning product that lets you project several years into the future based on past tax returns. The 1985 edition is also slated to include form 6252, for computing installment-sale income.

### TaxPlan

*TaxPlan* has two features not found in any of the other products. First, it has a form that compares your itemized deductions to the published average deductions for your income bracket. The IRS uses a computer program that selects returns for auditing on the basis of their deviation from the "normal" deductions. This form, although providing limited analysis, can help you get a feel for your chances of being audited.

The second feature provides subschedules for the parts of certain schedules that require you to write in a description and an amount, such as the miscellaneous



deductions section on the federal Schedule A. The other products provide only a description field; you have to do the arithmetic yourself. *TaxPlan* includes a cell for the amount and then automatically totals the various items—a nice touch.

Using *TaxPlan* is like using *Tax-Prep*, at least for the mechanics of data entry, form sequencing, and printout preparation. As in *Tax-Prep*, *TaxPlan* forms are linked, minimizing duplicate data entry. There are, however, differences between the two products.

*TaxPlan*'s forms are too wide for *Multiplan*'s display, so there are always a few characters trailing off the right side of the screen (see Figure 4). This is partly because the *TaxPlan* forms are often more detailed than the *Tax-Prep* equivalents. For all their additional detail, the *TaxPlan* forms are less readable; Descriptions are often truncated, limiting their usefulness. The extra-wide display exacerbates the awkwardness of entering tax data in *Multiplan* templates.

According to the *TaxPlan* manual, "All other forms [other than the Federal Form 1040 and the NYS IT-201] may be submitted to the IRS and other state agencies as-is." What's missing from this sentence is the magic phrase "IRS-approved." I called FutureVest about the forms, and a company representative said the printouts had not been submitted for IRS approval. The manufacturer claims that customers have successfully submitted printed forms to the IRS. The IRS is reasonably lenient about all but the 1040 form, but you may not want to take a chance. The company could ensure their customers' success by submitting the forms to the IRS for approval.

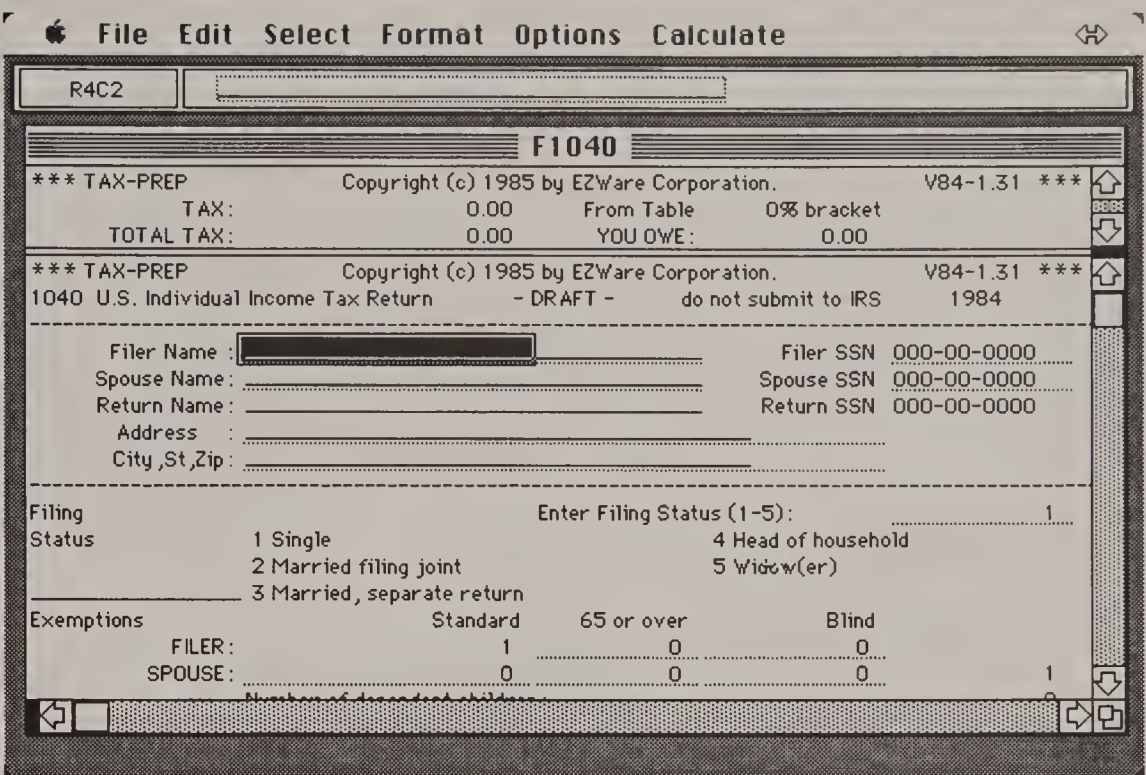
In my opinion, the printouts are not suitable for anything but personal record keeping. They contain extraneous information in data fields and extra columns on the right-hand side of the printed report. Text fields are often truncated. If you use this program, I recommend that you copy the printed results on official IRS forms.

FutureVest planned to offer *TaxPlan86* revised for 1985 returns in versions for *Multiplan*, *Excel*, *Jazz*, and *Crunch*, as well as state income tax templates for California and New York. You may want to consider *TaxPlan* if you plan to make frequent use of sub-schedules or if you want to analyze your chances of being selected for an audit.

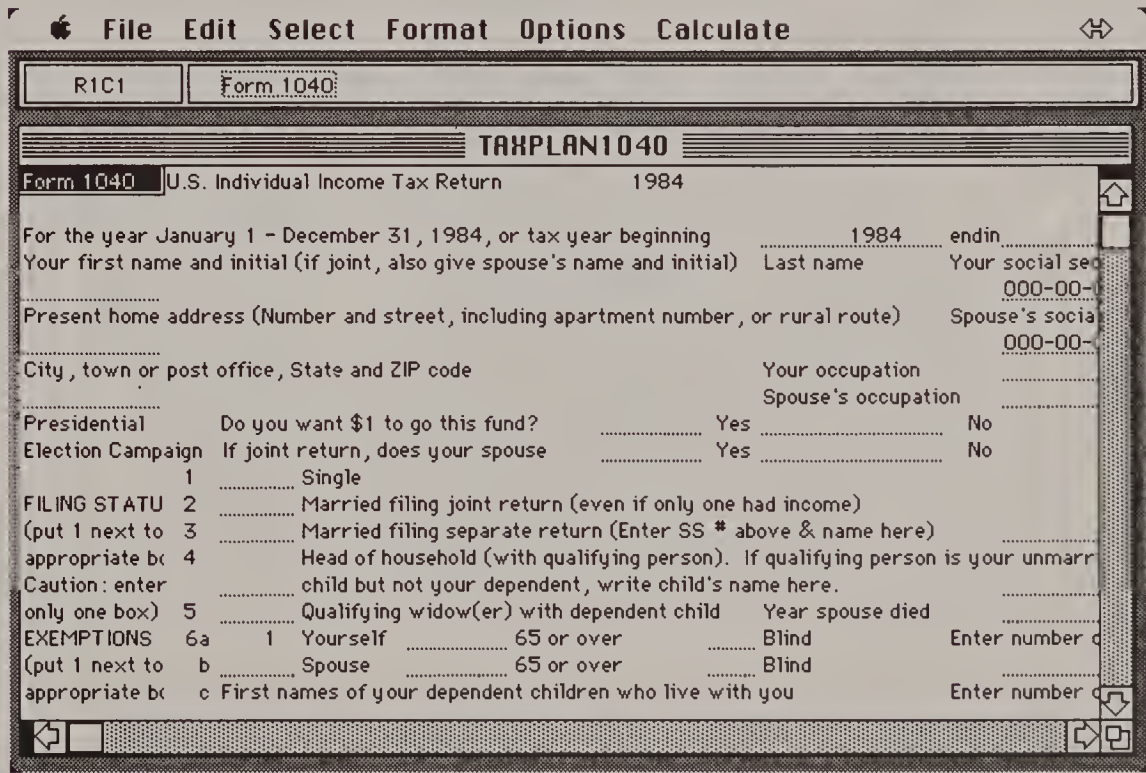
**Tax Master**

*Tax Master* is the weakest of the five products covered in this review. Unlike the other *Multiplan*-based products, *Tax Master*'s forms don't link together. You have to enter some data more than once to make sure that all information is properly calculated. Fortunately, only a few items have to be duplicated.

*Tax Master*'s forms are readable and the printouts are suitable for manually transferring information to the appropriate IRS forms. The product's most annoy-



**Figure 3**  
*Tax-Prep is a Multiplan template and has a complete linking feature that helps you keep your forms automatically up-to-date as you enter data. All forms except the 1040 are IRS-approved.*



**Figure 4**  
*TaxPlan is another Multiplan template that provides more text directions in the forms than it can manage. The extra directions make the forms less legible and unnecessarily wide, obscuring information on the side of the screen.*



ing characteristic is the forms' inclusion of sample data. As you step through the overly wide displays, you have to remove the sample data. This is especially aggravating considering the slow scrolling.

Of all the products reviewed, *Tax Master* is the only one that calculated an incorrect value in my tests. It computes a negative medical deduction if you have no medical expenses. Other than this small problem, *Tax Master* seems to work properly. However, the program contains a serious oversight: it doesn't compute the amount to be refunded to you at the bottom of the 1040 form—the most significant number in a tax return.

## The programs are comparable in price to the templates, if not less expensive.

The *Tax Master* documentation that I reviewed was stored on disk only. It was a sparse five pages that explained the product's bare essentials and nothing more. For the price, I expect something more comprehensive. Considering *Tax Master*'s lack of value, I can't recommend it.

A Mac Products representative said an *Excel* template was planned for the new version, and state supplements for California, Illinois, and New York would be available.

### Making a Choice

The template approach to tax-preparation software has a few limitations, most noticeably in speed and lack of formatting flexibility. On the other hand, *Multiplan* templates can be updated and changed to suit your individual needs. Of the three template sets, you might want to consider *TaxPlan* for its sub-schedule and audit-analysis features. *Tax-Prep*'s automatic linking and its wide variety of IRS-approved forms make it the best all-around *Multiplan* tax template.

Unless you require specific forms that only the templates provide or you want to customize the templates, I recommend the stand-alone tax preparation programs. Most people won't require all the forms the templates provide, and the tax programs are faster and easier to use. The programs are also comparable in price, if not less expensive, than the templates.

If speedy performance is a crucial concern or a C schedule is essential, *TaxWizard* may be the best choice for you. However, *MacInTax* takes the greatest

advantage of the Macintosh's capabilities and is much easier to use than the other products—a significant factor for a product you may use only once. Unless you're calculating multiple returns, *MacInTax*'s speed will probably be sufficient, and the short learning curve will more than make up the computational time you'd save with a faster program. For general tax preparation, I give *MacInTax* my highest recommendation. □

▲▲▲▲▲▲▲▲▲▲ Steve Mann is a microcomputer specialist and systems auditor working for the San Francisco office of Peat, Marwick, Mitchell & Co.

▲▲▲▲▲▲▲▲▲▲ All prices and options are for current 1985 editions of the products.

*MacInTax*  
SoftView Co.  
315 Arneill Rd. #215  
Camarillo, CA 93010  
800/622-6829, 800/622-8439 in  
California, 805/388-2626  
List price: \$75, Business Supplement \$30,  
California Supplement \$30

*Tax Master '85*  
Mac Products  
20231 San Gabriel Valley Dr.  
Walnut, CA 91789  
714/595-4838  
List price: \$99

*TaxPlan86*  
FutureVest  
P.O. Box 20223  
New York, NY 10025  
212/222-1607  
List price: \$59

*Tax-Prep '86*  
EZWare Corp.  
29 Bala Ave.  
Bala Cynwyd, PA 19004  
800/543-1040, 215/667-4064 in  
Pennsylvania  
List price: \$99.95, upgrade from last  
year's edition \$60

*TaxWizard '85/'86*  
Gamma Productions, Inc.  
817 Tenth St. #102  
Santa Monica, CA 90043  
213/451-9501  
List price: \$64.95



# MICAH DRIVE AT™

## *Advanced Technology Internal Hard Disk Systems for the Macintosh™ and Macintosh Plus™ Computers*

MicahDrive AT™ is a break through in Macintosh™ mass storage design: the first internal hard disk drive subsystem engineered for speed, rugged reliability and expanded memory capabilities. A complete subsystem MicahDrive AT™ can be installed in less than 40 minutes by most users. It offers true HFS and MFS compatibility and comes with a smart Archival/Restore utility that knows how to back-up only the most recently changed files within a volume.

MicahDrive AT™ achieves this break through by adding an internal SCSI interface to the Mac™ that gives the fastest data throughput speeds possible. In the Mac Plus™, the external SCSI port is left unimpeded for other devices - even other hard disks.

MicahDrive AT™ was designed to fit comfortably inside the Mac™, and can be transported safely wherever you and your Mac™ go. The rugged drive is mounted in a modular shock-resistant unit that can take up to 40 G's shock. The system secures data so well that it comes pre-formatted and ready to use.

The MicahDrive AT™ won't limit your memory either. MicahMemory 2/4" expandable RAM card was designed especially to take your MicahDrive™ and Mac Plus™ to 2 or 4 mb of RAM with absolute hard drive / RAM compatibility.

Because MicahDrive AT™ is such a reliable product, Micah backs it with a one year limited warranty. To find out how easy the MicahDrive AT™ is to install, use and own, call for a free brochure and installation manual or visit your local Apple dealer.



Suggested retail price:

MicahDrive AT 10" \_\_\_\_\_ \$1495.

MicahDrive AT 20" \_\_\_\_\_ \$1895.

MicahMemory 2/4" Card, 2 mb RAM \_\_\_\_\_ \$ 595.  
4 mb RAM \_\_\_\_\_ \$ 895.

# MICAH

15 Princess St., Sausalito, CA 94965  
(415) 331-6422, Telex: TWX 510 600 1221  
Circle 352 on reader service card



# Filevision Gets Down to Business

Allen Munro

*Business Filevision takes up where Filevision leaves off, providing you with substantial improvements to the original program*

*The new 512K version of Filevision—Business Filevision—integrates the drawing and filing features of the original program with more advanced capabilities, including computed fields, sorting on three levels, statistical functions, and previewing reports on screen. In addition, Business Filevision has a new “pop-up” feature that lets you add another layer of graphic interest to your files.*

The original *Filevision* was one of the first Macintosh programs to use the special characteristics of the Mac to define a new kind of database program. It combines the attributes of a drawing program like *MacDraw* with those of a database filing system. You can create drawings and link the graphic objects to data records, forming a visually oriented database. *Filevision* is a much more radical departure from conventional database programs than *Microsoft File*, which lets you enter graphic fields in data records (see “Filevision: A Database in Pictures,” *Macworld*, January 1985).

Many Macintosh pioneers were entranced by *Filevision*’s unique capabilities. However, the original *Filevision* lacks the data capacity and report-generation capabilities that can be found in most other Macintosh database programs. Consequently, the program has never gained a foothold in the business world. Instead, the application is used for personal filing projects and educational presentations.

*Business Filevision* clearly shows its lineage. At first glance the only visible difference from the original *Filevision* is that the Tinker menu has been renamed Access. On closer inspection, however, you’ll see that the new version provides the database management capabilities that bring the program to an equal footing with other database systems, such as *DB Master* and *Microsoft File*. In addition, *Business Filevision* offers impressive enhancements to *Filevision*’s graphic display features as well as to its capabilities for linking graphics and data.

*Business Filevision*, which requires a 512K Mac, comes with two disks. One disk contains the program, which takes up about 300K, and a customized System file. Because there isn’t space on the disk for

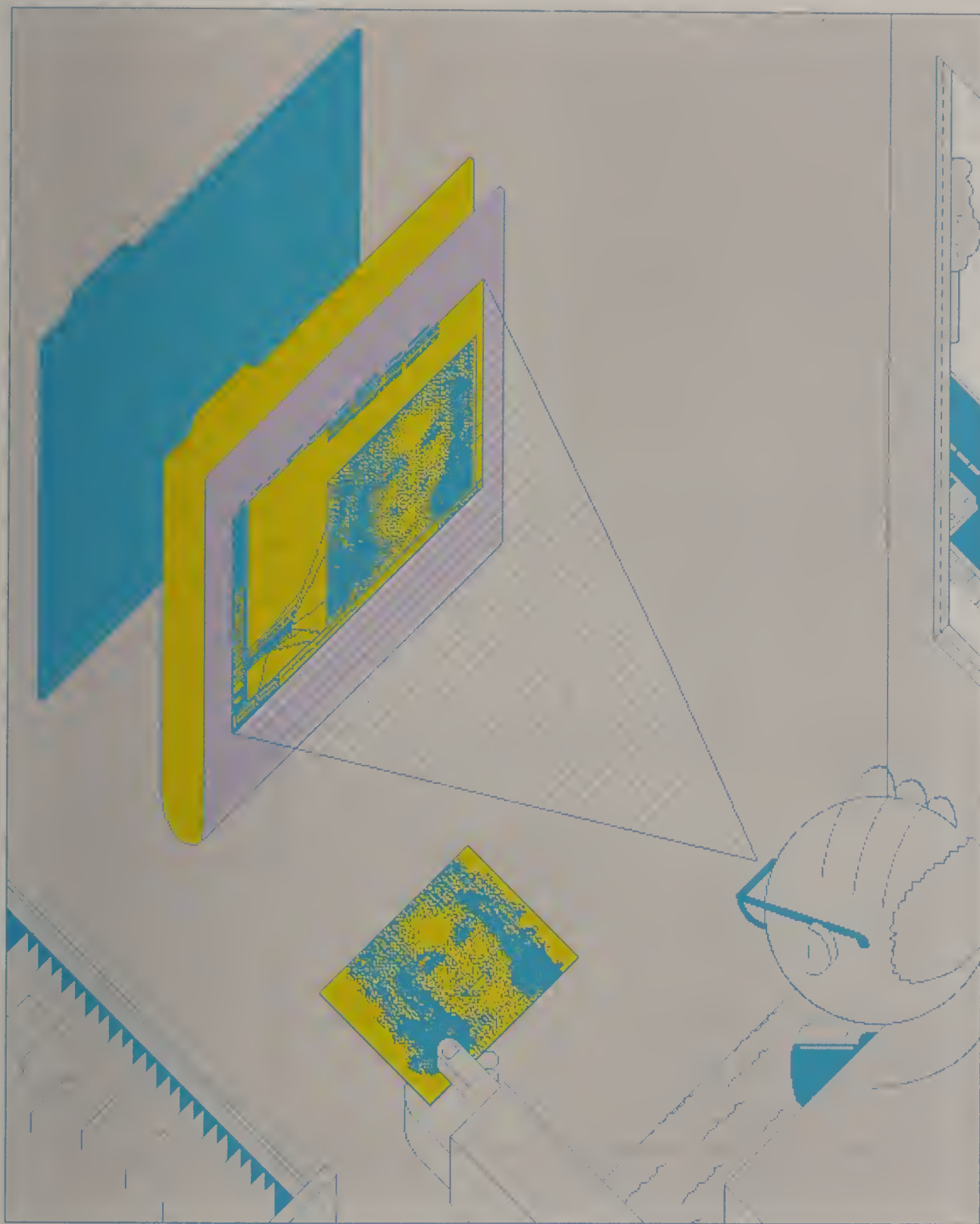
the Finder, the program disk automatically starts up the application. The second disk has a complete System Folder, sample files for the tutorial exercises, and two utilities. One utility converts original *Filevision* drawing/data documents to *Business Filevision* documents. The other utility is a hard disk installation program, which makes it possible to put *Business Filevision* on a hard disk and use it without having to insert the master when you start up from the copy.

As with the original *Filevision*, *Business Filevision*’s strength is the blending of drawing and database functions in a way that gives you an impression of direct manipulation. One example of direct manipulation in *Business Filevision* is the new pop-up feature. This feature makes it possible to associate specific graphic sub-displays with particular objects in a drawing, hiding them until their associated objects are selected. Figure 1 shows a company organization chart that was created with the program. When the name of the vice president for research and development is selected, her portrait appears on the screen, as in Figure 2. As soon as the name is deselected—by clicking elsewhere in the drawing—the pop-up graphic disappears.

## The Tool Palette

Like the original *Filevision*, the new program provides *MacDraw*-like tools for the construction of the graphic portion of documents. Selected graphic objects are highlighted with handles, like those used in *MacDraw*, or with inverse video or a black border. Graphic objects can be





text, straight lines, polygons, rectangles, rounded-corner rectangles, ovals, arcs, freehand lines, or symbols—special 16- by 16-pixel icons. You can change the symbols with the program's built-in symbol editor.

Each *Business Filevision* document can have its own set of 20 symbols, which are chosen from a special menu called the symbol palette. Lines can be black, white, or gray, and 1 to 4 dots wide. Filled graphic objects such as rectangles, circles, and polygons can contain any of 18 patterns, which you can edit. You can reshape graphic objects created with the straight

line, polygon, and freehand tools by adding new vertices to existing objects. You can easily convert a triangle into a pentagon, for example.

You handle text in the graphic display with the usual text manipulation methods, and you can display the text in underline, italic, bold, or shadow styles. Five font sizes and up to eight fonts can be selected. As with other Macintosh programs, you can use a utility program to add or remove fonts from the System file.

The graphic abilities of *Business Filevision* surpass those of its predecessor. A drawing can extend over an 8- by 10-inch area—more than three times the area of the

original. An unusual scrolling method dispenses with conventional scroll bars and thereby saves screen space for the drawing. A dark rectangle below the drawing tools palette represents the 8- by 10-inch drawing area, and a white rectangle within it the 6- by 4-inch drawing window. To view a different part of a drawing, you drag the little white window to a new location in the dark rectangle. To help you find the right spot for the window, all currently selected objects show up in the rectangle as tiny inverse squares. In addition, you can view a reduced image of the 8- by 10-inch drawing area. All of the drawing and editing tools except the text tool work within the reduced display.

### Data Management

As with the original *Filevision*, you must define the abstract types, or categories, that objects belong to in a *Business Filevision* file. You can include up to 16 types per file. Whenever you define a new type, you must define its record structure by building an information-entry form for objects of the type. Figure 3 shows the information form for the Hotel type defined for a travel agent's drawing file, shown in Figure 4.

You can construct queries based on field values. For example, you can ask that the travel agent's map highlight all the lakes with altitudes of more than 800 meters. Or you can ask for all the hotels in a particular area with overnight peak-season room rates of less than \$100 per night (see Figure 5). All the objects not selected by the query are dimmed, highlighting the selected objects. *Business Filevision* gives you more flexibility in queries than did



*Filevision*, allowing comparisons between fields, rank comparisons, and nested query constraints.

One of *Filevision*'s major drawbacks is that it does not calculate numeric data. In *Business Filevision*, fields can be computed, displaying values based on the values of other fields. In reports, the program can calculate statistics, including total, average, and standard deviation. Calculated field values can range from plus to minus 9,999,999,999.9999—enough to compute the national debt, at least for a few more years.

You can set up a field so that it displays default text during data entry, using the value of the field from the previous record or a constant default for the field. For example, to avoid repeatedly typing the same part number for a series of inventory records, you click the Copy from Previous Record option in the Field Setup dialog box for the selected field. Subsequent records contain the assigned part number.

You can also cut, copy, and paste data-entry forms for use in a variety of *Business Filevision* applications.

Like *Filevision*, *Business Filevision* lets you link files. At the bottom of Figure 4 are three buttons—Prev, Next, and Info—that you can double-click to leave the current map and move to a different map. This link feature makes it possible to build large, coherent information systems with many drawings and vast amounts of data.

Data storage in *Filevision* is limited by the constraints of the 128K Mac; you are limited to 132K and 999 objects per file. In *Business Filevision*, a single file can fill up to 4 megabytes with as many as 32,000 objects. Naturally, it would be difficult to fit so many graphic objects in a single drawing, but *Business Filevision* permits non-graphic objects—types that have only data records but no graphic objects associated with them. A single record may have up to 4000 characters, and a field can be as large as 2000 characters. You can put up to 99 fields in a record, and you can fill a 30- by 30-inch display area with fields for a given record. Vertical and horizontal scroll bars are used to move around the record form.

### Report Generation

*Business Filevision* lets you print customized reports, labels, forms, and mail-merged form letters. Up to 20 customized report formats can be stored for each file.

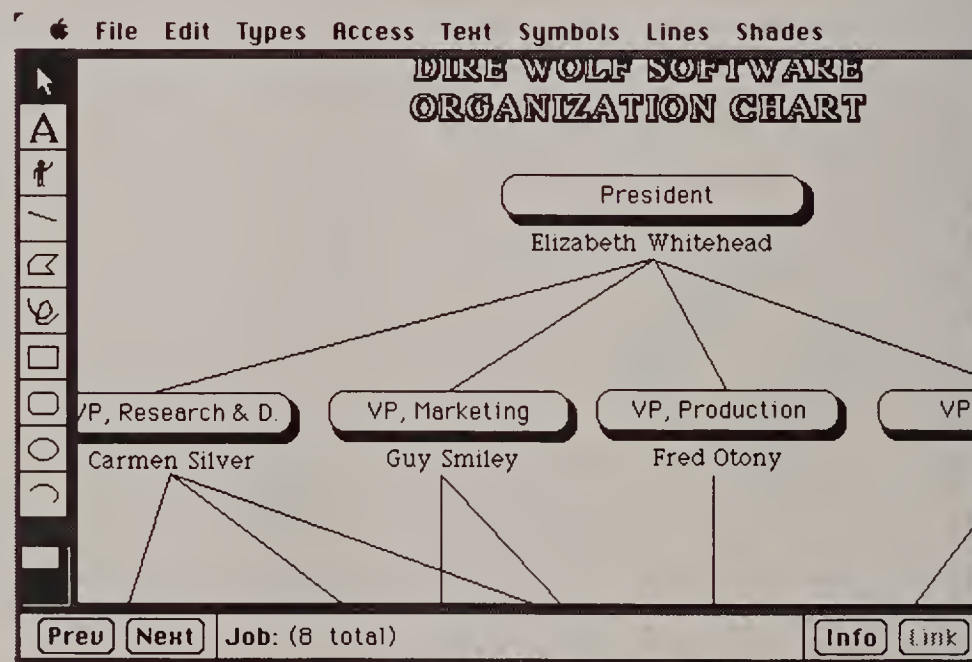
You can select up to three fields for sorting in a report form, customize headers and footers, format fields, position or remove individual data fields, print graphic fields, adjust headers and footers, and print the date, time, and page numbers. You can save the report as a text file to download later to another filing or word processing program or even to another computer. In addition, *Business Filevision* lets you preview reports on screen before printing—a feature lacking in *Filevision*.

You can print reports on both the Imagewriter and the LaserWriter using any of the fonts available to the program. Like *MacDraw*, *Business Filevision*'s graphics can take advantage of the LaserWriter's 300-dots-per-inch resolution, clearly rendering lines, rectangles, ovals, LaserWriter fonts, and all other objects created with the graphic tools. Only bit-mapped objects imported from *MacPaint* or via digitizing applications are limited to the Macintosh's original 72 dots per inch on the LaserWriter.

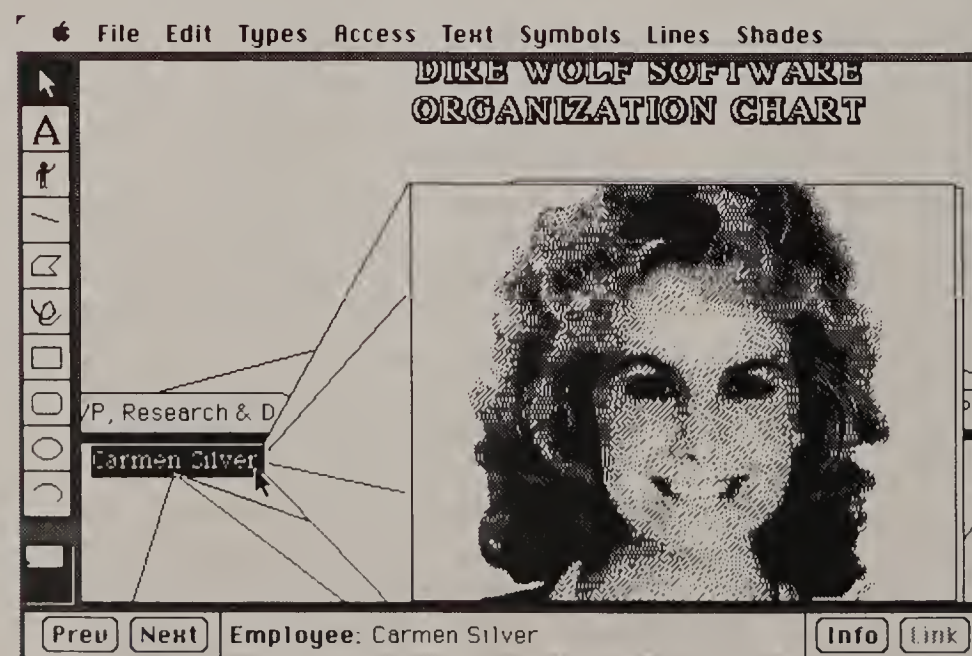
### The Limiting Factors

*Business Filevision* is not without some of the limitations that plague the original *Filevision*. Although graphics highlight in response to queries, they don't automatically change in response to changes in their data attributes. For example, changing the data record in a catalog of a rare book collection to show that a particular book was moved to a new location does not cause the image of the book to move to the new location in the graphic representation of the library. Another drawback is that you can only search for data in one type at a time.

Some of the handy drawing features of *MacDraw* are absent, such as Rotate and Flip. Multipage drawings like *MacDraw*'s would be useful. It would also help if the graphic objects created by *Business Filevision* were built on the same underlying structure as *MacDraw*. As it stands, a *Business Filevision* graphic pasted into *MacDraw* for further enhancement is treated



**Figure 1**  
The organizational chart shown here has associated records of two types, job titles and employees. Clicking on an object in the chart can trigger a graphic display for the selected object, as in Figure 2.



**Figure 2**  
Selecting an employee brings up an associated graphic, in this case a digitized image of the employee. A pop-up graphic for a real estate database could contain a floor plan of each house.



as a *MacPaint*-like bit-mapped object rather than as a typical *MacDraw* object. When you copy the *MacDraw*-manipulated object back into *Business Filevision*, it can no longer be ungrouped, and it may look skewed on a LaserWriter printout.

One other limitation is that *Business Filevision* cannot exchange data with other programs. Ideally, you'd want to be able to copy *Business Filevision* data to a spreadsheet like *Multiplan* or Lotus 1-2-3 for serious number crunching or bring in data from another data management program such as *Helix*, *OverVUE*, or *Omnis III*. However, Telos plans to provide a modestly priced import/export utility in the near future.

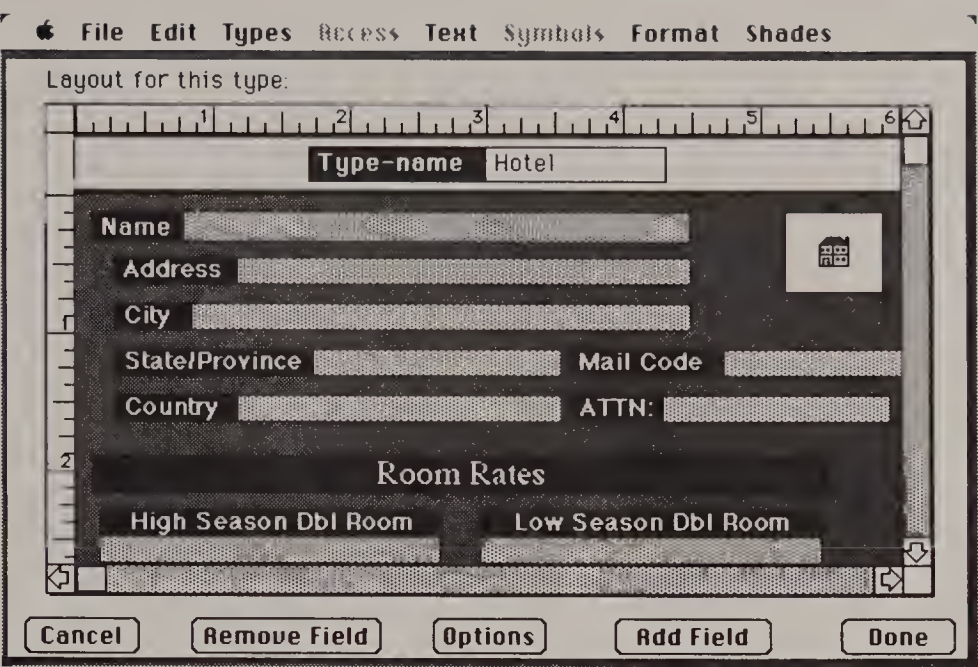
**Overview**

Although you can become productive relatively quickly with *Business Filevision*, the documentation is indispensable for making full use of the program. Certain techniques, such as creating a pop-up, can be performed only through keyboard combinations and have no corresponding menu option. Most menu selections have keyboard equivalents so that experienced users can work more quickly.

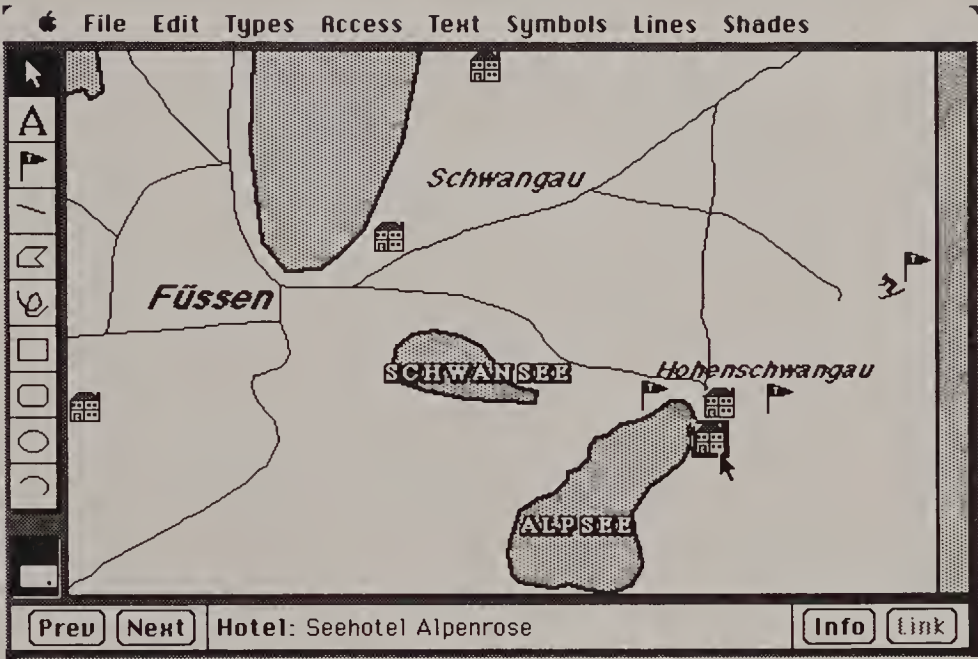
For most *Business Filevision* applications, you need a hard disk to gain the storage space needed to maintain large files containing significant amounts of graphic information. If any aspects of your business data can be made more comprehensible by portraying the relationships among your data records graphically, and you don't require an elaborate relational database system, *Business Filevision* offers the only way to build a single file that can combine the visual information of a drawing program with the alphanumeric relationships of a conventional database system. □

▲▲▲▲▲▲▲▲▲▲ Allen Munro conducts research on intelligent computer-based simulation training at the University of Southern California. He is the author of *Mac Power: Using Macintosh Software*.

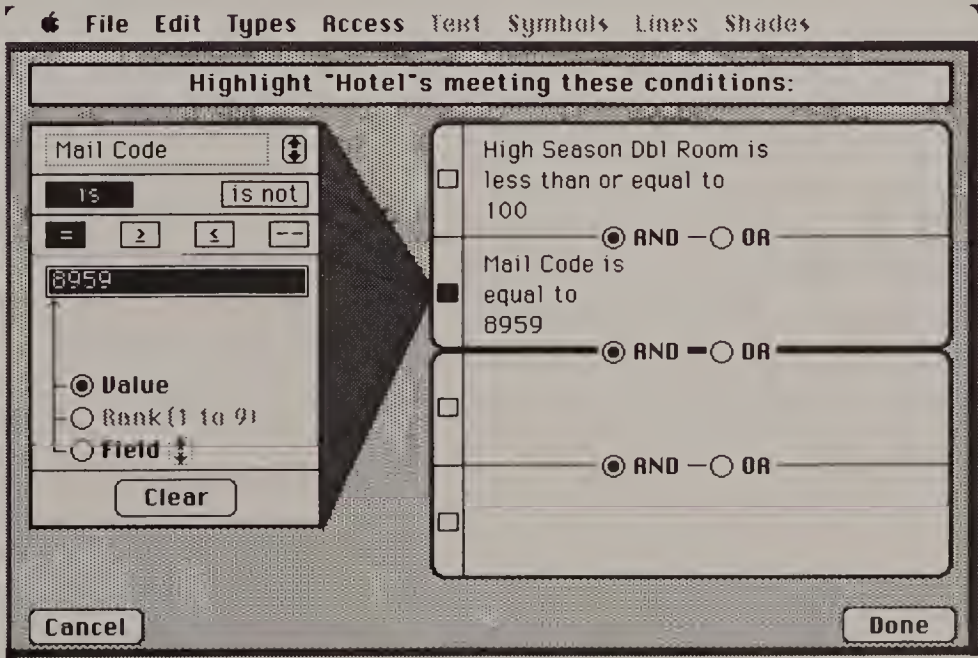
▲▲▲▲▲▲▲▲▲▲  
*Business Filevision*  
Telos Software Products  
3420 Ocean Park Blvd. #3050  
Santa Monica, CA 90405  
213/450-2424  
List price: \$395, upgrade from *Filevision* \$200; requires 512K and external disk drive



**Figure 3**  
Fields within a record can be of two types: data or annotation. Annotation fields provide headings for the form. In this figure the small picture of a hotel in the upper-right corner and the black box labeled Room Rates are annotation fields.

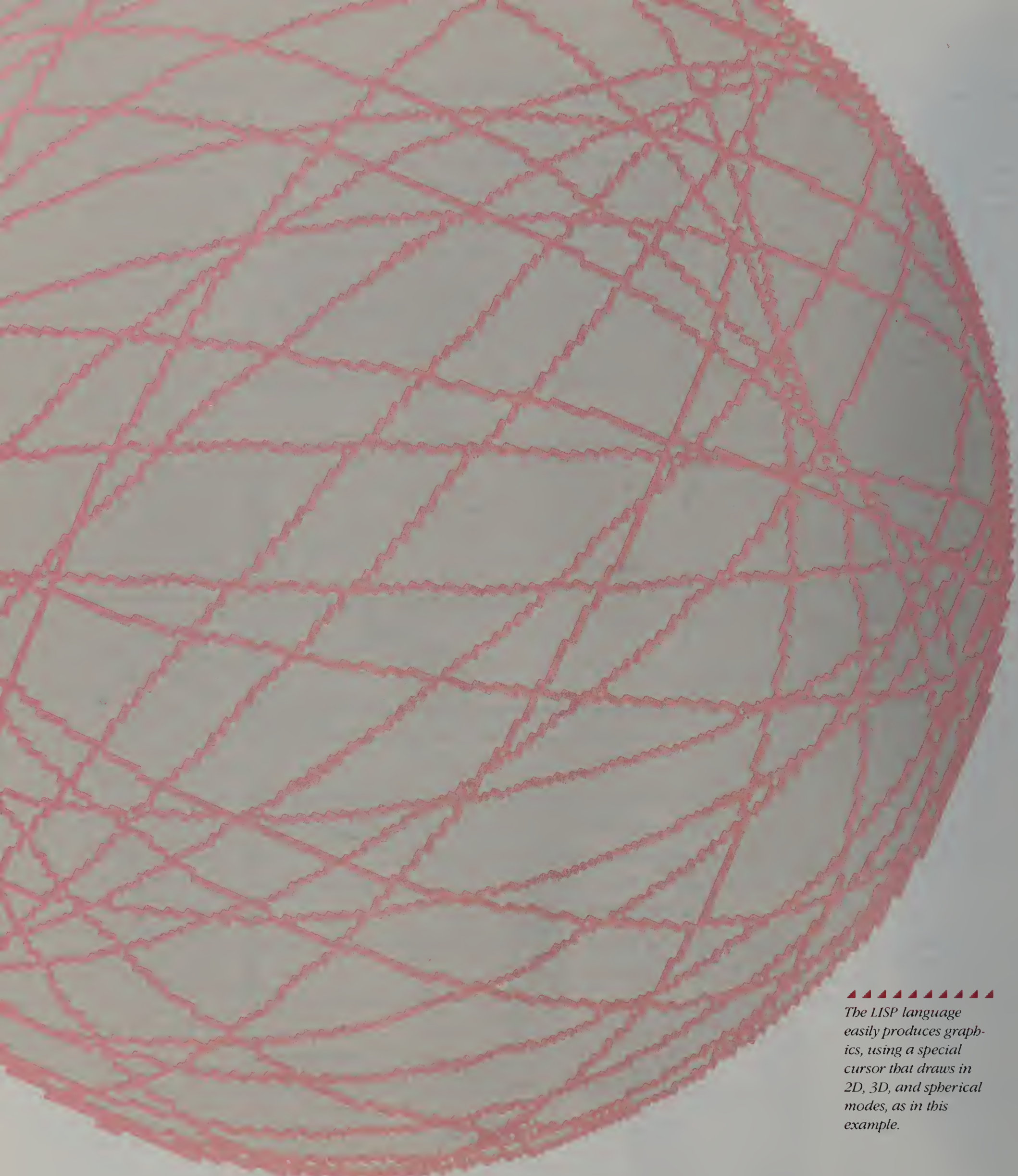


**Figure 4**  
A travel agency's drawing file for a portion of Bavaria displays objects that represent the file types: Lake, Town, Road, Tourist Attraction, and Hotel. Travel agents could use the database to select hotels and attractions meeting their clients' needs.



**Figure 5**  
You can search within a category, or type, for records meeting specific criteria. This query asks for all hotels in the 8959 mail-code vicinity with peak-season room rates of less than \$100 per night.





*The LISP language easily produces graphics, using a special cursor that draws in 2D, 3D, and spherical modes, as in this example.*



# The Macintosh LISP Machine

*Richard Sprague*

## *ExperLisp brings artificial intelligence programming to the Macintosh*

*The programming techniques used to create a spreadsheet or a database are inappropriate for getting a computer to compose music or write novels—activities that require intelligence. Most people don't think in terms of numbers, arrays, and other programming concepts. Instead, human thought involves symbols, properties, and the relationships between symbols.*

The field of artificial intelligence (AI), the branch of computer science that seeks to make computers act intelligently, began around 30 years ago. LISP, a programming language first developed by John McCarthy in the late fifties, let AI researchers develop programs that were based on the manipulation of symbols instead of numbers.

In the late seventies, researchers at MIT developed a computer, called the LISP Machine, designed to efficiently process LISP. Shortly thereafter, several commercially produced LISP machines, such as the Symbolics 3600, the Xerox Dorado, and the Texas Instruments Explorer, appeared on the market. The idea behind these machines was to produce a personal LISP machine that could be used by a single programmer, rather than having several programmers share one large mainframe. However, dedicated LISP machines often cost well over \$100,000. Since LISP machines and the Macintosh already share many similar concepts, such as the use of mice and windows, the development of a Macintosh LISP was inevitable. ExperLisp, a version of LISP from ExperTelligence, finally makes it possible to develop artificial intelligence programs on the Macintosh.

### **ExperLisp's Programming Environment**

Because LISP programs often involve abstract manipulation of symbols, programming in LISP is much less formal than programming in a language like Pascal, which gives you a clearly defined method for solving a problem. To write a program for which there is no clear-cut solution, you might start by creating a few key routines and then build upon those routines, there-

by gaining a better feel for the problem as you go. This trial-and-error technique, often called exploratory programming, necessitates an interactive environment that lets you switch easily between writing, compiling, and modifying the LISP code. ExperLisp's use of the Macintosh's windows lets you easily write and modify your programs.

When you start ExperLisp, you see two windows, ExperLisp Listener and an empty Edit buffer. The Listener window lets you run ExperLisp interactively, as if you were working with a BASIC interpreter. Everything you type is immediately evaluated when you press Return, and any results are displayed immediately. I found the Listener window valuable for keeping a record of my work sessions. By saving the current Listener window in a disk file, I could load it later and review what I had done previously.

While the Listener window is fine for evaluating short expressions or testing pieces of code, you wouldn't use it to write entire routines or programs. To create a new program or routine, you need to type it into the Edit window and then compile it using the Compile All command in the Compile menu. You can have several Edit windows open simultaneously and cut and paste between them. If you wanted to compile only a portion of the routine, you could select several lines of code with the mouse and choose Compile Selection. I found the ability to incrementally compile



portions of code invaluable during the endless cycle of changes that characterize my program development scenario.

To run a compiled routine, you type its name in the Listener window. Results are returned to the Listener window, and if the routine produces any graphics, they are drawn in a separate graphics window. The ease of switching between the interactive environment of the Listener window and the noninteractive editing window encouraged an exploratory style of programming.

I found two features lacking in an otherwise responsive program environment. The first shortcoming is that you cannot save compiled code to disk, meaning that you can't create stand-alone applications. The designers at ExperTelligence report that version 2.0 will allow you to create stand-alone code, but for now you must load and recompile your programs each time you start a programming session. The second shortcoming, which I will cover shortly, is the lack of a program debugger.

### Bunny Graphics

One of the best ways to make developing AI programs easier is to provide a graphic programming environment. ExperLisp has remarkable built-in graphics commands that make it easy to draw sophisticated images using a *bunny*, a special cursor that moves around the screen according to the commands you give it. This drawing tool is similar to the turtles in

Logo. The relationship is no coincidence, since Logo was first designed as a dialect of LISP to be taught to young children. However, ExperLisp's bunnies are much more sophisticated than Logo's turtles. Bunnies can draw in two or three dimensions.

## Many features of the Macintosh user interface are very easy to re-create in ExperLisp.

Three dimensions let you easily create perspective and simulate objects moving through space. Another special bunny can draw in a spherical dimension, moving as if it were on a globe (see Figure 1).

### Controlling the Macintosh Interface

Many features of the Macintosh user interface are very easy to re-create in ExperLisp. Menus, for example, are easy to make using ExperLisp's built-in functions `NEWMENU` and `APPENDMENU` (see Listing 1). In this example the variable *my-menu* is bound, or assigned, to a new menu titled Graphics. The *appendmenu* primitive uses the string argument to de-

fine the various menu options. When the menu item is selected, ExperLisp passes two arguments to a function stored in the system variable *menuhook*. The two arguments correspond to the menu and a number representing the menu item selected.

ExperTelligence plans to make the next version of ExperLisp a fully object-oriented programming language. ExperLisp 1.04 currently treats windows and other graphics as objects internally, but you can't access the existing classes and methods, nor can you define your own (see "Illuminating Objects," *Macworld*, August 1985, for a discussion of object-oriented programming).

Windows are just as easy to create and manipulate as menus. You create windows by passing the argument `NEW` to a system class called `GwinClass`, which behaves like a function call. Because of the syntax, the use of `GwinClass` resembles the message-passing scheme common in Smalltalk and Neon. You use other arguments or methods to move windows to the front, reshape them, or move them to a new location. Most QuickDraw primitives are provided as well, making it possible to create the usual Macintosh graphics and text operations.

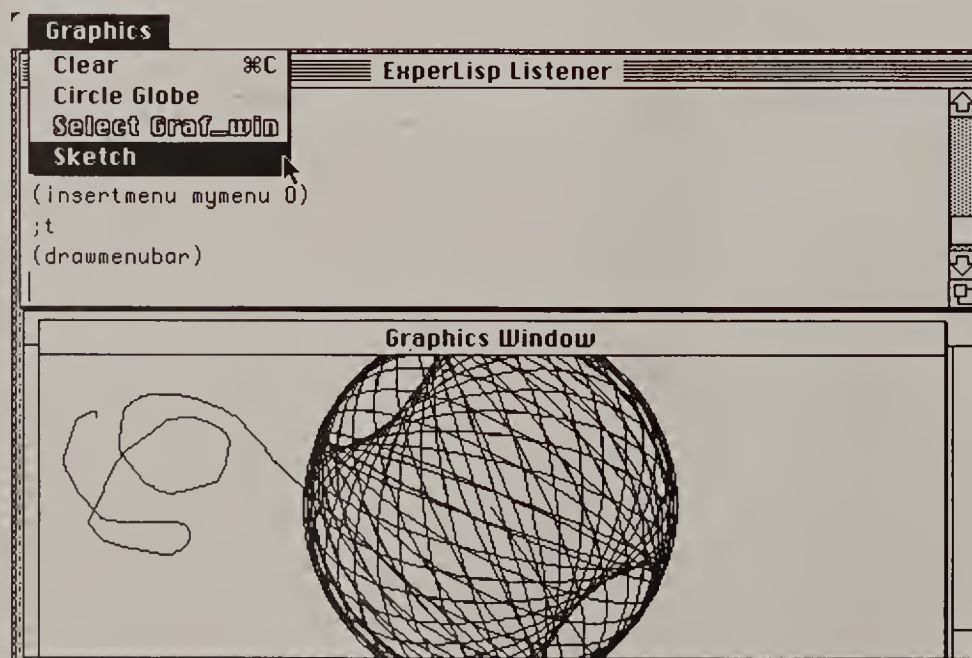
### Speed and Memory

LISP programs originally had a reputation for running very slowly, but most complaints about the execution speed were leveled at interpreted versions of the language. LISP systems on mainframe computers have proven to rival the most efficient FORTRAN compilers—even at heavy number crunching. However, ExperLisp is not a convincing example of the potential speed of a good LISP system. Statements are compiled and executed as native 68000 code, which should mean speedy execution, but I was disappointed to find that a Macintosh Pascal version of a simple graphics program executed in less time than its ExperLisp counterpart.

The program I used (see Listing 2) moves the pen near the center of the graphics window and draws a series of lines in a radiating pattern. A 512K Macintosh with an external drive can draw 1000 of these lines in about 90 seconds. Listing 3 shows the Macintosh Pascal version of the same program, which executed faster—in about 75 seconds—even though Macintosh Pascal is not a native code compiler.

**Figure 1**

An example of ExperLisp's spherical graphics (see Listing 1). When you select *Circle Globe* from the *Graphics* menu, the sphere is drawn. *Sketch* allows you to draw with the mouse.





## LISPs in Common

A consortium of industrial and university LISP programmers established the Common LISP standard in 1984. ExperLisp has been designed to conform to this standard as much as possible, but for performance reasons the ExperTelligence version deviates slightly. For example, to speed programs up, ExperLisp offers many nonstandard alternatives for doing integer arithmetic. Most of the functions like file and terminal I/O, strings, and other often-used commands are unique to the ExperLisp dialect and aren't fully compatible with other LISPs. ExperTelligence representatives say we can expect version 2.0 to adhere more closely to the Common LISP standard.

However, ExperLisp 1.04 has enough compatibility with Common LISP that many large programs have already been converted to run on the Macintosh. One program that has been successfully transferred to the Mac under ExperLisp is a version of the *OPS5* expert system development tool, a fairly large and intricate program used for developing commercial AI programs. *ExperOPS5* can be purchased separately from ExperTelligence.

## Problems with ExperLisp

With LISP's devout following, any new LISP version is bound to be criticized by programmers who are used to the amenities of a dedicated LISP machine. Some of ExperLisp's shortcomings are really criticism of the Macintosh. For example, while ExperLisp allows any number of windows to be open at one time, a feature crucial in LISP because of the high level of interactivity, the size of the Macintosh screen is a serious impediment. The small screen makes it difficult to work on lengthy programs. Version 1.04 allows you to use different font sizes in each window, which lets you see as much information as possible, but developing a large program can still be frustrating.

Ironically, one of the most serious problems is caused by the method ExperTelligence uses to speed up the development process. Because programs are incrementally compiled into native 68000 code

(continues on page 104)

```
(setq ball (newspbun))
(setq radius 100)
(setq curbun ball)
(setradius radius) ; this sets radius of the bunny's sphere.
(setq turn 120)

(setq circumference (* radius 2  $\pi$ )) ; Notice EL's Pi character.

(defun circumscribe nil
  (std_graf 'selectwindow) ; Make graphics window show.
  (setq curbun ball) ; This becomes the new bunny.
  (while (not (button))

    (forward circumference) ; Bunnies walk in a straight
    (rt turn))) ; line on the sphere

(defun sketch (&optional (bunny (new2dbun)))
  (setq curbun (new2dbun))
  (while (not (button)) ; Until you click the button,
    (setpos (getmouse)) ; keep getting the mouse coordinates
    (line 0 0))) ; and draw a single dot there.

;;; here's how to set up menus in ExperLisp:

(setq safety (getmenubar)) ; save the oldmenubar just in case.
(setq mymenu (newmenu 7 "Graphics")) ; creates a new menu

(appendmenu mymenu
  "Clear/C;Circle Globe;Select Graf_win<0;Sketch")
(insertmenu mymenu 0)
(drawmenubar) ; it doesn't show in the bar until now.

;; EL will pass these parameters when mymenu is selected.
(defun dosphere (themenu theitem)
  (cond ((= theitem 1) (home) (cs))
        ((= theitem 2) (circumscribe))
        ((and (= theitem 3) std_graf)
         (std_graf 'selectwindow))
        ((= theitem 4) (sketch))
        ))

;; finally, make it execute dosphere every time
;; this menu is selected.
(setq  $\mathcal{G}$ menuhook dosphere)
```

```
;;; draws an angelic pattern of n lines
;;; emanating from point (50,50)
(defun angel (n)
  (home)
  (let ((x 0) (y 0)) ; declare these as local variables
    (dotimes (i n) ; FOR i:=0 TO n
      (setq x (* 100 (sin i))) ; this is the body...
      (setq y (* x (sin x))) ; ...
      (moveto 50 50) ; ...
      (lineto x y))) ; ...

  ;; (angel 1000) in about 90 seconds.
```

## Listing 1

*This program creates a spherical image.*

## Listing 2

*The program used to create the radial pattern shown in Figure 2. The SIN function causes the lines to emanate in different directions. The program was written to allow comparison with the Pascal version shown in Listing 3.*

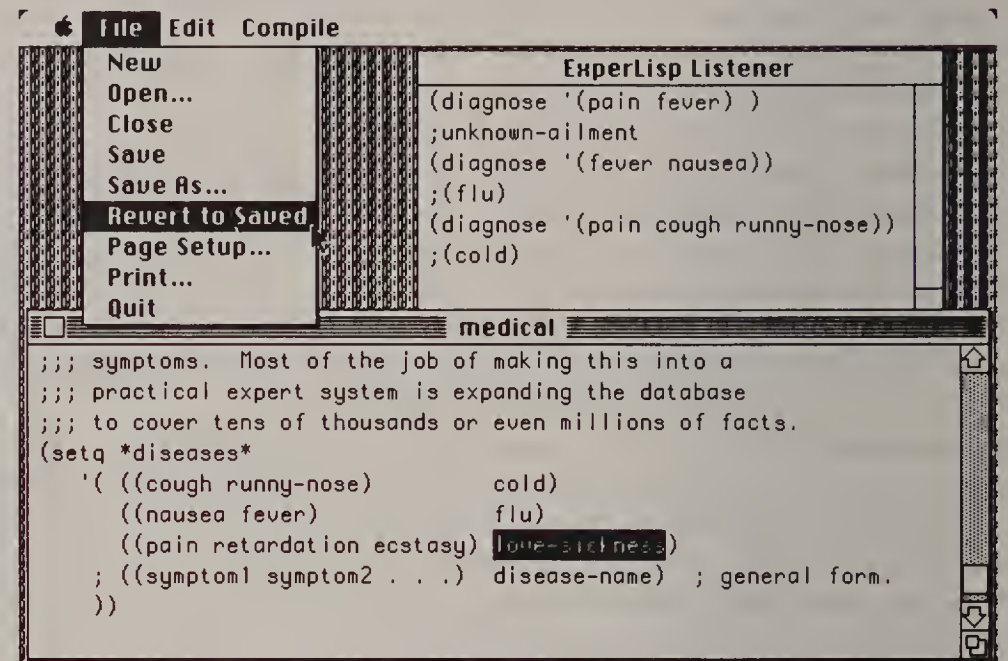


## Programming in LISP

LISP programs are similar to FORTH in that you start with a small nucleus of primitive operators, and you build larger operators by combining primitives. The most important data type in LISP is called a list, and most programming in LISP involves manipulating lists. In fact, the name LISP is an acronym for *list processing*. In this object-oriented language, all objects are either atoms or lists. An atom is any sequence of one or more ASCII characters. Any sequence of objects enclosed in parentheses is a list. According to this definition, lists may also contain other lists, since a list is a legal object.

Programs consist of lists. The first element of a list corresponds to a function, and the remaining elements are arguments that are evaluated by the function. For example, in the list (PLUS 5 8), the function PLUS takes the arguments 5 and 8 and returns the value 13.

LISP provides five primitive list operations. The first, CAR, takes a list and returns the first element. CDR returns the rest of the list minus the first element. CONS takes any two objects and constructs a new list whose CAR is the first object and whose CDR is the second object. The last two primitive LISP operations return the values T (for true) or NIL: ATOM takes an object and returns the special atom T if it's an atom or NIL otherwise; EQ returns the value T if two LISP objects are the same or NIL if they are not. You can combine primitives to form your own functions with the DEFUN statement. The IF statement, which evaluates the second argument if the first ar-



### Medical Adviser

You invoke the DIAGNOSE function by typing a list containing the function name and a list of symptoms in the Listener window. You can modify the program in the Edit window at any time to add new symptoms and diseases to the list.

gument is true or the third argument if the first argument is false, can be used to control the execution of a program. QUOTE is the only function that doesn't evaluate its arguments. These eight predefined operations are enough to write any LISP program, no matter how complicated. Other statements only add convenience or improve performance.

To write an AI program in LISP, you must represent the symbolic information in list form. Then you can write a program to manipulate the list. As an example of a program that manipulates symbols, the listing "Diagnose" performs a simple analysis of a patient's symptoms and provides a diagnosis of possible diseases. To do this, the function DIAGNOSE takes a single argument, SYMPTOMS, which holds the value of the list of symptoms typed in by the user. When DIAGNOSE is called, it executes all the statements in its body; in this case, there is only one statement.

The function DIAGNOSE-WITH-KNOWLEDGE, which is defined later in the listing, evaluates the two arguments SYMPTOMS and \*DISEASES\*. \*DISEASES\* is an example of a global variable that holds the list of diseases and symptoms. The SETQ statement at the end of the listing assigns values, in this case the disease-symptom list, to the variable \*DISEASES\*. If the list of possible diseases is empty, DIAGNOSE-WITH-KNOWLEDGE returns the result UNKNOWN-AILMENT, since no SYMPTOMS match. If all the symptoms match the symptoms of the first disease on the list, the function returns the name of the disease (see "Medical Adviser"). Otherwise, the function calls itself after shortening the list of possible diseases by using CDR on the second argument.



```

;;; a very simple medical expert system.
;;; give it a list of symptoms, and it will return the
;;; first disease it knows about that has all of
;;; those symptoms.

(defun diagnose (symptoms)
  (diagnose-with-knowledge symptoms *diseases*))

;;; the following two abstraction operators will improve
;;; the speed, and are shown here to illustrate ExperLisp's
;;; macro and backquote ability.
(defmacro known-disease (pair)
  `(cdar ,pair))

(defmacro known-symptoms (pair)
  `(caar ,pair))

;;; this is the most important function: it checks to
;;; see if the current symptoms match any of the
;;; known symptoms of the possible diseases.
(defun diagnose-with-knowledge (symptoms possible-diseases)
  (if (null possible-diseases)
      'unknown-ailment
      (if (subsetp (known-symptoms possible-diseases) symptoms)
          (known-disease possible-diseases)
          (diagnose-with-knowledge
            symptoms
            (cdr possible-diseases))))))

;;; this becomes the database of known diseases and their
;;; symptoms. Most of the job of making this into a
;;; practical expert system is expanding the database
;;; to cover tens of thousands or even millions of facts.
(setq *diseases*
  '( ((cough runny-nose)      cold)
      ((nausea fever)        flu)
      ((pain retardation ecstasy) love-sickness)
      ; ((symptom1 symptom2 . . .) disease-name) ; general form.
  ))

```

#### DIAGNOSE

*An example of a simple medical diagnosis program. The function DIAGNOSE takes the list of symptoms you give it, searches the list stored in the global variable \*diseases\*, and returns the name of the disease if a match is found.*



## For Further Reading

*Structure and Interpretation of Computer Programs*, by Harold Abelson and Gerald Jay Sussman with Julie Sussman, MIT Press, 1985. This book is probably the best available on LISP and computer programming. Designed for an introductory course at MIT, it takes you through a wide range of LISP topics, from object-oriented programming to logic programming and LISP implementation. Beginners might find the book too technical, but anyone serious about programming in LISP should study it.

*LISP* second edition, by Patrick H. Winston and Bertold K. P. Horn, Addison-Wesley, 1984. This is an excellent introduction to Common LISP, especially for people interested in artificial intelligence applications. The book contains lots of interesting and practical examples.

*A Gentle Introduction to Symbolic Programming*, by David S. Touretzky, Harper and Row, 1982. ExperTelligence includes this book with each copy of ExperLisp, although the dialect used in the book is fairly different from Common LISP. The book is good for complete beginners, especially

those who are less technically oriented. More experienced programmers may find it a little shallow and not very useful for learning intermediate and advanced topics.

*Common LISP*, by Guy L. Steele, Jr., Digital Press, 1984. One of the most highly praised language manuals ever written. The book is the definitive reference for all Common LISP constructs. ExperLisp 1.04 doesn't conform well to many of these specifications, but you may find it useful for reference.

(continued from page 101)

before execution—that is, ExperLisp treats each procedure individually instead of compiling the entire program all at once—almost no debugging is available. Missing is the ability to freeze a program and look at the state of all the variables and functions. In ExperLisp all functions are simply black

boxes that either return correct answers or don't. A crude tracing facility exists, but it offers little help in an intricate debugging situation. For people who develop programs of any size, the lack of a debugger is one of ExperLisp's most serious shortcomings.

Documentation is another area in which ExperLisp falls short of the mark. The only reference guide is a 189-page manual generated from an Imagewriter printout. No index is included, few complete examples are given, and I noticed numerous omissions. The product package includes a copy of Touretzky's *Gentle Introduction to Symbolic Programming* (see "For Further Reading"), but I found the book inadequate for progressing beyond the most elementary concepts.

One of ExperLisp's problems could be solved with more memory on the Macintosh. The minimum configuration is a 512K Mac, but it would be hard to run a very large program in that space.

In spite of its problems, ExperLisp is worthwhile for programmers who want to program in LISP and are experienced enough or patient enough to put up with the shortcomings. And as an added incentive, ExperTelligence is distributing free updates to registered owners of the program.

So far, ExperLisp won't let you turn your Macintosh into an artificial intelligence workstation. However, the language offers a hint of much better AI development systems to come. But even with the most powerful LISP machine, there's one thing you still can't overlook: the most impressive computer you own is the one inside your head. □

▲▲▲▲▲▲▲▲▲▲ Richard Sprague is a free-lance writer and programmer who studies formal linguistics at Stanford University.

▲▲▲▲▲▲▲▲▲▲  
 ExperLisp, ExperOPS5  
 ExperTelligence, Inc.  
 559 San Ysidro Rd.  
 Santa Barbara, CA 93108  
 805/969-7871  
 List price: ExperLisp \$495,  
 ExperOPS5 \$325

```
program angelPascal;

procedure angel (n : integer);
var
  x, y : real;
  i : integer;
begin
  for i := 1 to n do
  begin
    x := 100 * sin(i);
    y := x * sin(x);
    moveto(50, 50);
    lineto(trunc(x), trunc(y));
  end;
end;

begin
  angel(1000);
end.
```

### Listing 3

The Pascal version of the angel program executes in about 75 seconds.



Maxell Corp. of America, 60 Oxford Drive, Moonachie, NJ 07074



**maxell**<sup>®</sup>  
FLOPPY DISKS  
THE GOLD STANDARD

Circle 267 on reader service card

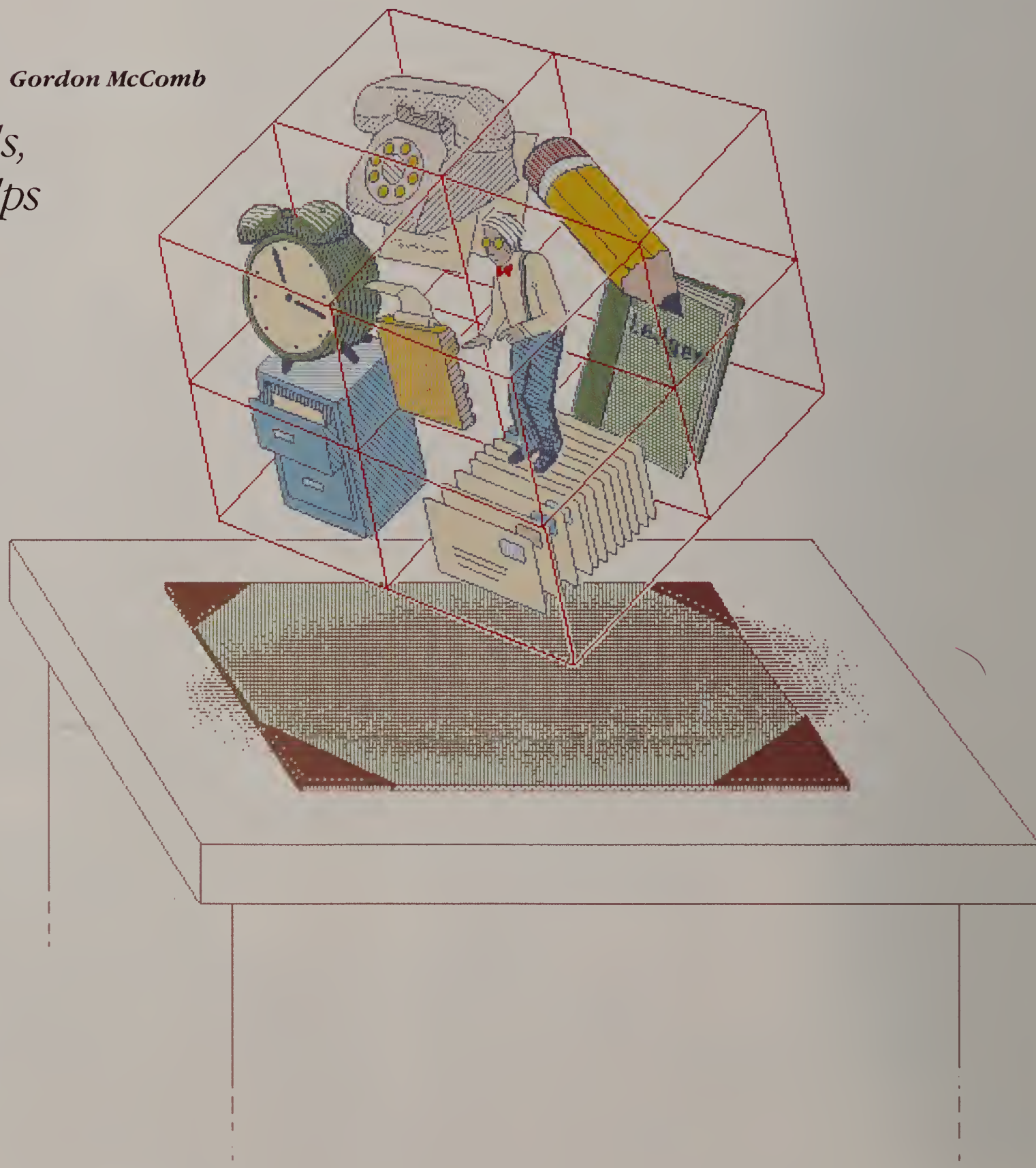


# Accessories to the Facts

Gordon McComb

*Sidekick files, dials, and otherwise helps out with office chores*

A desk organizer—electronic or manual—is something that helps keep your everyday affairs in order. A good desk organizer should be available at a moment's notice and should include, at the very least, an appointment book or a calendar, a list of commonly used phone numbers, and a place to write and edit notes. Borland's Sidekick for the Macintosh conforms to the minimum requirements of a desk organizer and adds some extras as well.





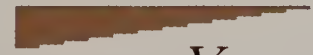
*Sidekick* includes an appointment book, a phone log, a mini-word processor, an area code directory, a telecommunications utility, a print spooler, a calculator, an alarm clock, a things-to-do list, files for expense and credit card accounts, and a report generator for printing phone directories, mailing lists, and expense files.

*Sidekick* works on either a 128K or a 512K Macintosh and requires one disk drive. Like most Mac programs, however, *Sidekick* works best with a 512K or larger Mac and with two disk drives or a hard disk. In fact, a hard disk is the only practical environment for *Sidekick*'s desk accessories, since a 46K system file called Deskstuff must be present on a disk for many of the accessories to function. For example, if you install a number of accessories and the Deskstuff file on a disk that contains a System Folder and a word processor, you are left with little room for documents or *Sidekick* data files.

### **Inside Sidekick**

*Sidekick* consists of a main application, several utilities, and a collection of desk accessories. You can add individual accessories to a program's Apple menu or use the *Sidekick* application on its own. The main application serves as a phone directory, appointment book, phone log, and phone dialer (see Figure 1). In addition, you can access all of *Sidekick*'s desk accessories from within the main application. (Again, the Deskstuff file must be present for many of the accessories to work.)

*Sidekick* works better as a stand-alone program than as a series of desk accessories. But this method negates the most important function of a desk organizer: the ability to immediately scan upcoming appointments, look up a phone number, or take notes during a phone call without quitting an application. Fortunately, you



## *You can use Sidekick on its own or add its accessories to any program's Apple menu.*

can use *Sidekick* with Apple's *Switcher*, allowing you to move quickly from one application to another. Each of *Sidekick*'s features is briefly described below.

### **PhoneBook**

To construct a database of names and phone numbers, you enter information into PhoneBook entry cards (see Figure 2). You can include notes about the person or company listed, as well as phone rates and consulting charges, if appropriate. If you have looked up and entered figures for phone charges, *Sidekick* times calls and totals the charges for you. *Sidekick* accommodates up to five discount long-distance services such as Sprint or MCI.

The PhoneBook menu lists up to 80 names in alphabetical order. If 80 names aren't enough, *Sidekick* lets you keep as many phone books as disk space allows

and alternate between them. Once a name goes on the menu, *Sidekick* can automatically dial the phone number if you've installed Borland's PhoneLink interface. Unfortunately, *Sidekick* can't dial the phone through a modem, as can some other Mac desk organizing programs.

While on the phone you can type in the Phone Notes area. When the conversation ends, click the Write Notes button to record the message in the PhoneLog, which keeps track of whom you call, when the calls are made, and how much the calls cost, including long-distance charges and consulting charges. You can examine, edit, or print the PhoneLog at any time.

### **MacDialer**

You needn't use *Sidekick*'s main application to look up numbers in the PhoneBook. Most of the features of the main application are available in the MacDialer accessory, which you can add to any program that supports desk accessories. The greatest difference between the two is that MacDialer limits you to ten entries. In addition, MacDialer doesn't let you examine or edit the phone log, nor does it offer pull-down menus.

### **Area Code Lookup**

The Area Code Lookup accessory provides a minidatabase of area codes for the United States, Canada, and Mexico. If you come across an area code that doesn't ring a bell, open Area Code Lookup and type in the area code. In a few seconds the state or country, region, and time zone of the area code appear.



## CalendarBook

Apart from the phone book and dialer, *Sidekick's* greatest claim to fame is CalendarBook, an appointment book desk accessory. When you open CalendarBook, a calendar showing the current month appears, with the current date highlighted. You can switch to another day by clicking on it in the calendar or to another month or year by clicking in the scroll bar below the calendar. CalendarBook includes a scrollable note pad for entering appointments for a selected day. CalendarBook can search for text in the note pad, but only for the current day.

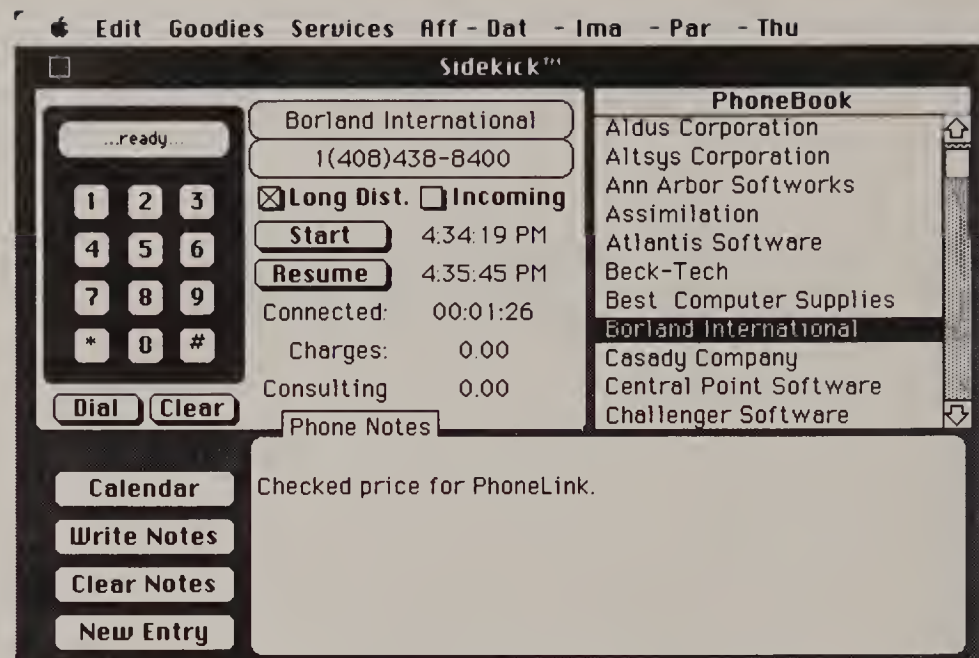
Normally, CalendarBook displays notes for just the current day. However, you can select Week at a Peek for an overview (see Figure 3). You can easily view notes from previous or forthcoming weeks, too. You can print Week at a Peek with *Sidekick's* PrintManager utility.

CalendarBook automatically looks for entries that are more than two weeks old. If any are found, you're asked if you want to delete them—a good idea, since the CalendarBook accessory runs sluggishly when it contains numerous entries. If you answer yes, the old appointments go to a text file called Past Memos, which you can open with *Sidekick's* Notepad+ accessory or with any word processor.

CalendarBook does not include an alarm function. If you need to be reminded of an appointment, you must use the Alarms QuikSheet, which is discussed later.

## ReadiPrinter

*Sidekick's* ReadiPrinter, a print spooler desk accessory, lets you use the Macintosh while a document is being printed. ReadiPrinter prints text-only files created with *Sidekick's* Notepad+ accessory or saved in Text Only format using *MacWrite* or *Microsoft Word*. Text files contain only alphanumeric characters; they don't include ruler, formatting, or font instructions. ReadiPrinter saves time, but since the accessory prints only text files, it has limited uses. You can't, for example, use it to print a *Multiplan* worksheet or a *Microsoft File* database.



**Figure 1**

With PhoneLink installed, Sidekick's main application automatically dials a phone number when you select a name. The program times calls, totals charges, and provides a space for taking notes during a call.

## Notepad+

A number of *Sidekick's* desk accessories enhance the Mac's original fare. Notepad+ offers a large, screen-sized page for notes.

Notepad+ also works exclusively with text-only files. Notepad+ includes a search feature for quickly locating a text string. On the minus side, this accessory lacks rulers, won't search and replace text, and forces you to write in 9-point Geneva.

## Calculator+

Another enhanced accessory is Calculator+, a multifunction business calculator with built-in "paper tape" and memory. In addition to the arithmetic functions found on the Mac's original calculator, Calculator+ offers several financial and math functions, including present and future values of an annuity, interest rates, sines, cosines, tangents, arctangents, and natural logs. The results of a Calculator+ session are displayed on screen on a scrolling paper tape. You can wind the tape backward to check a previous calculation, and you can print the contents of the tape.

## MacTerm

*Sidekick's* communications desk accessory offers the basic features you need to connect your Macintosh to other computers with a modem. MacTerm operates at 300, 1200, and 2400 bps, and lets you connect the modem to either the modem or printer port.

MacTerm both sends and receives files. Although you can download or upload text files of any length, the accessory does not support Xmodem or binary file transfers. MacTerm stores up to ten com-

monly used phone numbers. If the connected modem is Hayes compatible, MacTerm also dials automatically.

## QuikSheets

One of my favorite *Sidekick* features is the QuikSheets desk accessory, which maintains records of appointments, expenses, credit card accounts, and other categories that you create. You can choose among up to 21 QuikSheets once the accessory is open.

*Sidekick* comes with four ready-made QuikSheets: Alarms, Expenses, Credit Cards, and Things to Do. All the QuikSheets look like large Note Pads: you turn the pages by clicking a dog-ear in the lower-left corner of the sheet. The text entered into a QuikSheet can be printed or converted to a text-only file that you can edit with Notepad+ or a word processor.

You'll probably find the Alarms QuikSheet the most useful. This sheet reminds you of appointments, meetings, and other occasions. When the alarm goes off, the Mac beeps once and the Apple logo in the title bar blinks until you respond.

The Things to Do QuikSheet lists tasks to accomplish, each with a deadline. Like its paper counterpart, the Things to Do list provides a box by each entry for checking off the tasks you complete.

The Credit Card QuikSheet tracks credit card purchases; the Expenses QuikSheet records business and travel expenses. Unfortunately, neither of these



QuikSheets totals the numbers you enter. You can, however, copy the contents of a QuikSheet to a spreadsheet and perform calculations there.

Utilities

If the existing QuikSheets don't suit your needs, you can use QuikEditor to make your own. QuikEditor lets you design a QuikSheet layout, with or without check boxes beside each entry.

QuikEditor is just one of *Sidekick's* utilities. Others print QuikSheets, calendar notes, and phone listings; install and remove desk accessories; and convert phone book files to *Sidekick's* format.

PrintManager makes paper copies of the notes you create with *Sidekick*. PrintManager's best feature is that you can print QuikSheets and other notes in a miniature, "pocket" format. You can print a Things to Do QuikSheet, for example, and carry it with you throughout the day.

The other utilities aren't as universally helpful. The Desk Accessory Installer is similar to Apple's *Font/DA Mover*. You might as well use Apple's installer. The *Sidekick Converter* utility lets you copy phone directories created by *MacPhone* or *Habadex* into a *Sidekick* PhoneBook file.

Getting to Know Sidekick

*Sidekick's* 171-page manual is well illustrated and has plenty of examples, but it is poorly organized. To find out about a particular accessory, for example, you may look in two or three places before you find all the information you want. The documentation makes *Sidekick* look more complex than it is. Borland says a revision is in the works.

I tried *Sidekick* with several applications, including *Jazz*, *Excel*, *MacWrite*, *Word*, and *MacDraw*. All worked perfectly, and *Sidekick* didn't affect the programs' operation, a problem with some other desk accessory-based programs. All the *Sidekick* accessories worked with most applications in a *Switcher* rotation.

Although *Sidekick* takes up a lot of memory, it may be the most useful and feature-laden desk organizing program currently available for the Macintosh. Because the bulk of the program is divided into individual desk accessories, you can pick only those features you want to exploit,

Name

Jackson, Wanda

Company

Atypical Innovations

Address

4429 Della St.

City

San Francisco

State

CA

Zip

94707

Phone • Area code

415

Number

555-7853

Miscellaneous Notes •

Category

Software

Atypical's "MacSlack" automatically saves your files and shuts down your Mac every 2 hours, forcing you to take a coffee break.

List price: \$49.95

☒ Include in menu

☒ Include in phone books

☐ Use Long Dist. Service

☐ Round consulting fees

Phone charges •

0.00

 / minute for 

0

 minutes then

0.00

 / minute

Consulting charges • 

0.00

 / hour

OK

Copy and Save

OK and Next

Delete

Cancel

**Figure 2**  
*PhoneBook entry cards add listings to Sidekick's PhoneBook menu, alphabetized by name or company. When you choose a name from the menu, Sidekick applies any phone charges or consulting charges that were entered on the card.*

EditGoodiesServicesAff-Dat-Ima-ParWeek at a Peek

Week at a Peek

Mon, Mar 10

Thu, Mar 13

Tue, Mar 11

Fri, Mar 14

Wed, Mar 12

Sat, Mar 15

Sun, Mar 16

11:00 AM - Give report to Jan.	10:30 AM - Staff meeting. Bring report.	
12:30 PM - Lunch with salesman from Atypical Innovations.	1:45 PM - Pick up artwork.	
4:00 PM - Seminar: "Coping with Office Politics"	3:30 PM - Seminar: "Coping with Seminars"	
9:00 AM - Turn in revisions to Henderson Account.	10:00 AM - Meet with Albert to discuss the influence of the Japanese print on the early French Impressionists.	
10:00 AM - Meeting with Sales Department. Bring suggestions for new ad campaign.	12:30 PM - Lunch with Gwen.	
9:00 AM - Meeting with Production Department.	Beware!	7:00 PM - Dinner with André.
12:30 PM - Lunch with Richard.		
3:00 PM - Seminar: "Coping with Stress"		

**Figure 3**  
*The Week at a Peek window summarizes activities for the current week. Each day shows only the first few lines of notes. The scroll bar on the right lets you see an entire day's appointments.*

conserving disk space by choosing the accessories that suit your various work disks. If you want a no-frills version of *Sidekick*, try CE Software's *MockPackage*. The collection of MockWrite, MockPrinter, and MockTerminal desk accessories performs much the same functions as *Sidekick's* Notepad +, ReadPrinter, and MacTerm. In fact, the *Sidekick* accessories are based on CE Software's. *MockPackage* is available as "shareware" for \$20 and can also be found on many public-domain disks (CE Software, 515/224-1995). If you're on a tight budget, the Mock accessories should suit your needs. But if you want extras such as the phone dialer, calendar, calculator, and QuikSheets, consider spending the extra money on *Sidekick*. Whether or not *Sidekick* can actually clear your desk or improve productivity "by 50 percent," as advertised, is debatable. Obviously, no program compensates for a lack of organizational skills. To be on the

safe side, I'd say that *Sidekick* can help clear your desk and, when used religiously, help increase productivity. The percentage of improvement is up to you. □

▲▲▲▲▲▲▲▲▲▲ Gordon McComb is a Contributing Editor of Macworld.

▲▲▲▲▲▲▲▲▲▲  
*Sidekick, PhoneLink*  
Borland International  
4585 Scotts Valley Dr.  
Scotts Valley, CA 95066  
408/438-8400  
List price: *Sidekick* \$84.95, *PhoneLink* \$19.95

Macworld 109



# Roll Over Gutenberg

**Jay Kinney**

*Unlike drugstore cowboys and armchair quarterbacks, desktop publishers must immerse themselves in their work. Putting together a publication using a page-makeup program involves careful planning and a knowledge of the program's capabilities. In this article you'll learn how to put some of PageMaker's design features to work as you follow the production of a two-page newsletter.*

One of the most common buzzwords Macintosh users hear these days is *desktop publishing*. That's the capability of one person, with only a Macintosh and a printer, to write, design, illustrate, paste up, and print entire publications. Two events spurred this revolution in publishing: Apple's introduction of the LaserWriter, with its ability to deliver crisp, near-typeset-quality text and graphics, and the debut of several page-makeup programs (see "Publishing Turns an Electronic Leaf," *Macworld*, July 1985, for a description of three such programs).

In the following scenario you'll be taken through the creation of a newsletter using Aldus's *PageMaker*, the most sophisticated page-makeup program available for the Macintosh. Of course, the format and content of your *PageMaker* projects won't match the newsletter described here. But you'll be able to apply many of the tips in this article to your own publications.

## **PageMaker at a Glance**

Before you begin, you should be aware of exactly what *PageMaker* can do. If you're a novice at graphic design, *PageMaker* can't replace good on-the-job experience. Although the program provides a flexible environment in which to lay out various publications, it doesn't help you make aesthetic decisions.

What *PageMaker* does well is provide you with the components of a small design shop—drawing board, ruling pens, T-square, typesetter, and paste-up

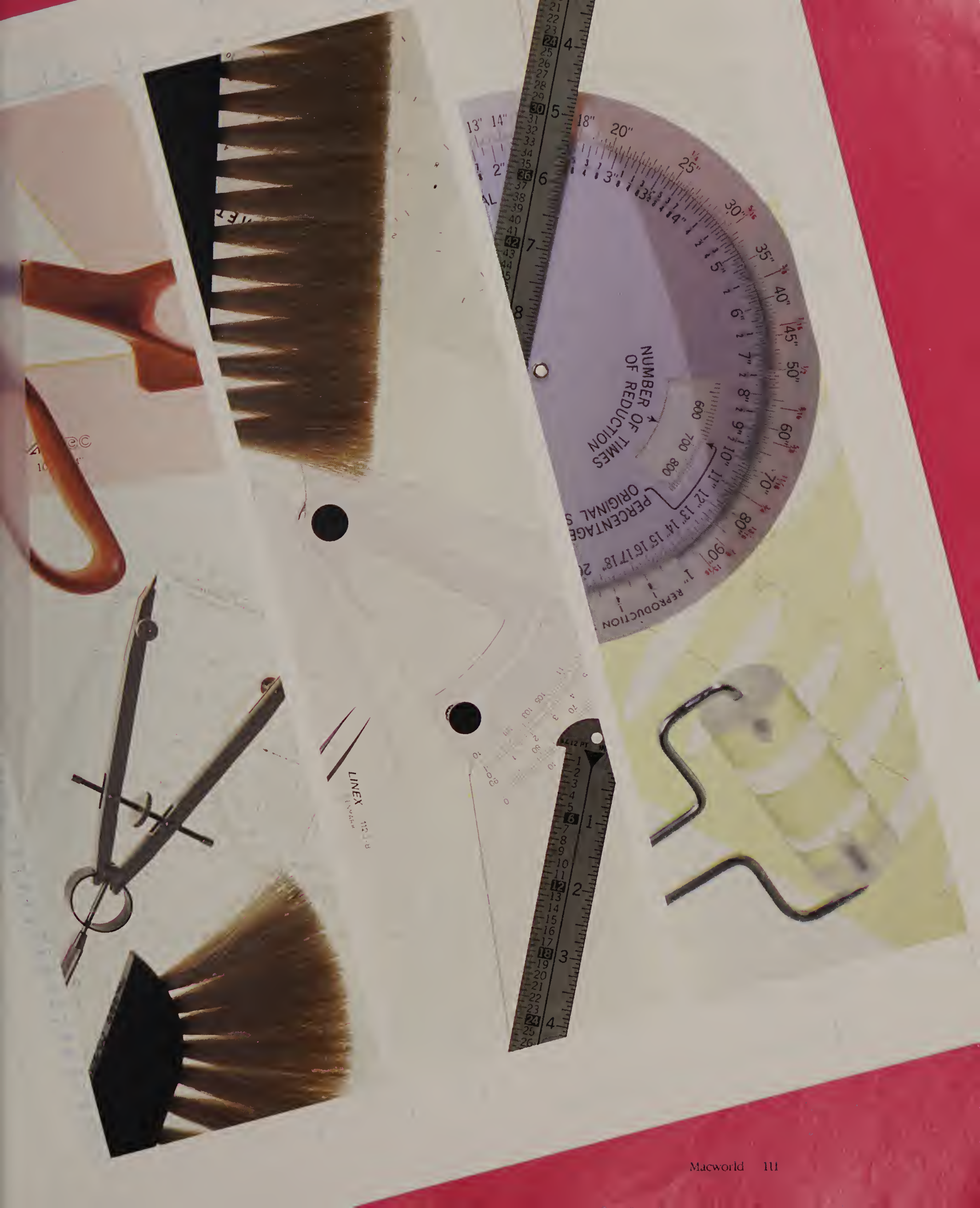
sheets—in the form of menus, icons, and mouse maneuvers. The program enables you to take text from *MacWrite* or *Microsoft Word* as well as artwork from *MacPaint* or *MacDraw* and move these elements around on pages displayed on the screen. If you don't like your first design or if you want to experiment with a different typeface or font size, *PageMaker* lets you make changes without having to peel up glued-down type or send for expensive revisions from the typesetter.

*PageMaker*  
provides the tools of a  
small design shop—  
drawing board, pens,  
T-square, and all.

## **Do Your Homework**

The key to getting the most out of *PageMaker* is to have your publication's design details worked out and its components ready to go before you insert the *PageMaker* disks. In the task before you here—the production of a two-page newsletter—that means preparing all the articles, news items, and other text as *MacWrite* documents and choosing the typeface and font styles and sizes you want to print on the LaserWriter. It's a good idea to create text documents on a *Mac-*







Write disk that has its System file customized to include LaserWriter fonts such as Times or Helvetica. That way you won't have to laboriously convert text column by column into the font and point size you want in *PageMaker*.

You can also save yourself time and effort in the long run by creating each article or news item as a separate *MacWrite* file. If you string all the articles together in one long file, rearranging just one article in *PageMaker* causes all the following text to shift

## Save trouble by creating each news item in a separate *MacWrite* file.

around, possibly spoiling the layout of several pages. Smaller blocks of text, on the other hand, can be moved around with a minimum of inconvenience.

After readying the text, prepare your illustrations as separate files—one illustration per file—in the size you want them on the printed page. *PageMaker* has a tool for “cropping” and scaling down graphics, but the job is far simpler if you use such tools sparingly for tightening things up rather than for massive, last-minute design changes.

Finally, it is advisable to have a good rough idea—perhaps in the form of hand-drawn “thumbnail” sketches—as to how you want the pieces of your publication to fit together in the final printed form. This means thinking ahead to details such as, Should I set two or three columns? or Should this picture appear next to this text? *PageMaker* allows you to experiment

with such decisions on screen, but be forewarned: too much indecision can lead you to time-consuming backtracking and even an occasional system crash. (*PageMaker* 1.1, which should be available by the time you read this, reportedly eliminates most of the problems that plague version 1.0.)

### Making a Template

For this job—a newsletter for the Goethe League, an offbeat literary society in the Silicon Valley—I designed the logo with *MacPaint* using a 36-point version of the London font, which is available on some public-domain disks. With ThunderScan I digitized a photocopy of a portrait of Goethe for the front page, and with *MacPaint* I drew a decorative illustration for the second page. I typed the newsletter text as several separate files in *MacWrite*, using the 12-point Times font. To minimize disk swapping, I saved all these components on a single disk.

Once you create your text and graphics files, you should start up *PageMaker* and create the basic layout grid, or template, for your newsletter. First choose a unit of measurement (inches, picas, or millimeters) from the Edit menu. Then select New from the File menu and specify the number of pages you want and the size of their margins in the Page Setup dialog box (see Figure 1). Finally choose Column Guides from the Tools menu and specify the number of columns and the space between columns. *PageMaker* calculates column widths from your specifications for margin size and number of columns. If, like most graphic designers, you are used to deciding on column widths yourself, you may find this indirect method irritating.

When you've set column guides for both the left and right master page icons (marked L and R at the bottom of the screen), the template automatically formats all pages in the *PageMaker* document. If you want to vary the format from page to page, don't click on the L or R icon; just proceed to page 1 and make your design decisions there. You then need to set a new format for each succeeding page.

Once you determine how many pages long your publication will be (two in this case) and specify the basic layout grid for those pages (two columns of text with  $\frac{3}{8}$ -inch margins), save the document on the Program disk. For a longer document—*PageMaker* sets a limit of 16 pages—you may need to save the document on a data disk instead of the Program disk to have sufficient memory. As you work on the newsletter, you should save the document frequently and even back it up from time to time as a safeguard against unexpected disaster.

### Putting Things in Their Place

Now you can start to lay out the first page. Choose Place from the File menu, eject the System disk, and replace it with the disk containing the components of

**Paper:** ☒ US letter ☐ A4 letter  
☐ US legal ☐ B5 letter

**Orientation:** ☒ Tall ☐ Wide

**Double sided:** ☒ **Start page #:**  **# of pages:**

**Margin in inches:**

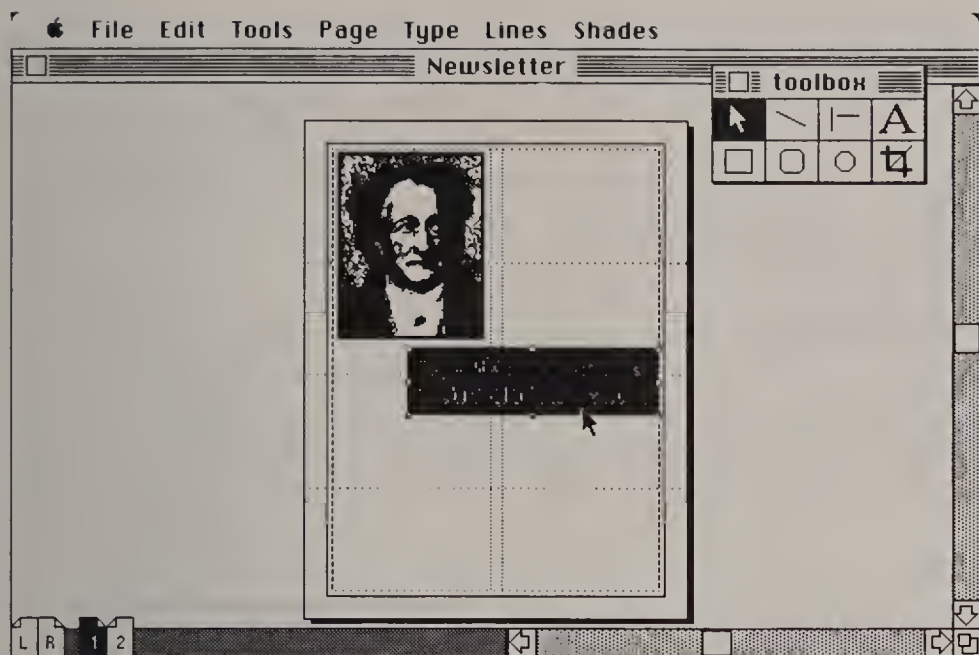
Inside	<input type="text" value=".625"/>	Outside	<input type="text" value=".625"/>
Top	<input type="text" value=".625"/>	Bottom	<input type="text" value=".625"/>

OK Cancel

**Figure 1**

When you open a new file, you are presented with this dialog box. *PageMaker*'s request that you set margin size instead of column width runs counter to graphic design conventions.





**Figure 2**

*Inserting graphic elements first and then placing text around them is the most efficient method. Elements can be easily moved around with the selection arrow.*

your publication. It's usually a good idea to place illustrations on the page first and then position text in relation to them. Open the first component to be laid out, in this case the portrait of Goethe. When *Page-Maker* returns you to the layout grid, the pointer is replaced with the *MacPaint* document icon, a small paintbrush. Position the icon where you want the upper-left corner of the drawing to be and click the mouse button. The drawing appears on the screen.

The same procedure is used to place the logo near the portrait of Goethe (see Figure 2). To make the logo overlap the portrait without the underlying portrait showing through, I used the rectangle tool from the toolbox to create a white rectangle the same size as the logo, and I placed the rectangle between the portrait and the logo. When you overlap several elements like this, use the Send to Back and Bring to Front commands in the Edit menu to establish which elements are in the foreground.

Inserting text is similar to placing graphic elements. Select the Place command and choose the block of text you wish to insert from the list of documents that appears. Next, position the text icon, a page corner, where you want the text to begin flowing into the column.

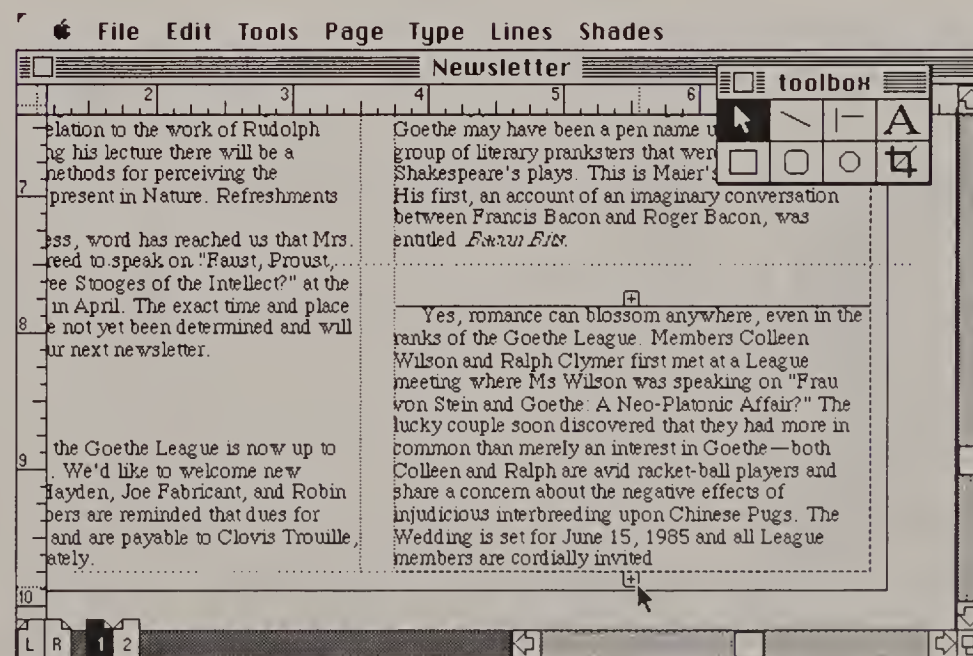
The lines of copy cascade down the column until a graphic element is encountered, the bottom of the page is reached, or the block of text ends. A tab at the end of the column of text displays a plus sign if more text follows or a number sign if you've reached the end of the file. If you see a plus sign, you have two options:

you can click on the tab and place the text icon where you want the text to continue flowing, or you can hold down the mouse button and move the tab back up the column to a more suitable stopping place. Since the news in the Goethe League newsletter consists of separate, paragraph-long items, I moved the tab back up to the end of the first item and placed the next item far enough down the page to allow space for inserting a headline later. I repeated this procedure in the space beneath the logo until I reached the end of the second column (see Figure 3). To continue the text on the second page, I clicked on the tab and selected the page 2 icon at the lower left of the screen.

### Making Headlines

Headlines are easy to create. In this newsletter I set off the headlines from the rest of the text with a small, 20 percent shaded rectangle. To place a headline in a box, first select the rectangle from the toolbox, then choose the shade and outline width you want from the Shades and Lines menus. Once you create a rectangle, you can copy it with  $\text{⌘-C}$  and paste duplicates above all the news items. To type the headlines themselves, select the A icon in the toolbox, choose Type specs from the Type menu, and decide on the type font, size, style, and alignment for the headline. If you want white headlines reversed out of black rectangles, for instance, you could choose white type from the Type menu at this point as well.

After filling in the type specs dialog box, click OK to return to the page at hand. Click the text insertion pointer, a flashing vertical line, where you want the headline to go, and type it in. If you want to reposition



**Figure 3**

*Tabs that contain a plus sign indicate that more text remains in the file. Clicking on the tab allows you to place succeeding text on the next page.*



a headline once it's typed, click the selection arrow in the toolbox, select the headline, and, with the mouse button held down, move the headline around. Because *PageMaker* allows you to move elements in minute increments, you may want to select Actual size or even 200 percent from the Page menu before positioning the headline. You may also want to deselect the Snap to Guides option from the Tools menu. This handy option keeps your copy aligned to the column guides, but you'll want to override the guides for small placement changes.

## Special Operations

You may want to further embellish your newsletter with design elements such as a large capital letter, or "drop cap." In the Goethe League newsletter, text wraps around the large *T* in the "Quote of the Month" at the top right-hand corner of page 1. First, type the feature's headline in the same font, size, and style as your other headlines. You can easily add a double rule using the rule tool from the toolbox.

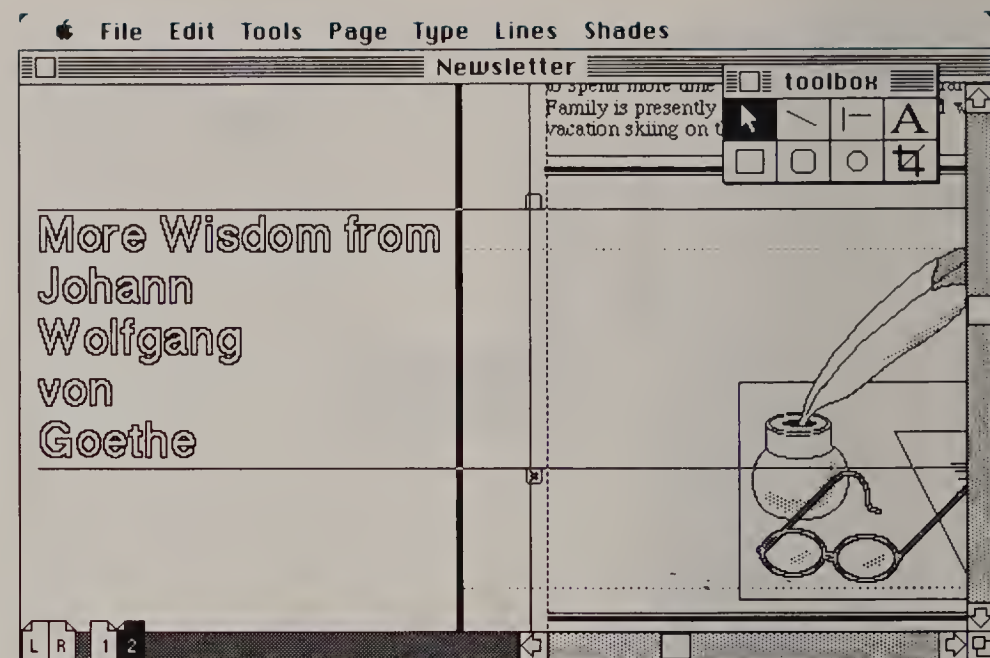
Next, select Type Specs from the Type menu and enter a point size of 100 in the dialog box that appears. Select Bold for the type style and click OK to return to the page. Using the text tool, place the 100-point bold letter *T* at the upper left below the rule.

Wrapping text around a drop cap is a two-step process. First, using the selection arrow from the toolbox, click on the column guide to the left of the letter and drag it over to the letter's right edge. Then choose Place from the File menu and position the text icon on the column guide near the letter. Click, and the quotation text flows down the column (see Figure 4).



**Figure 4**

To wrap text around elements such as a drop cap, the column guides can be dragged to the right to channel the flow of text into a narrower column. Then the column guides can be repositioned and the rest of the text inserted in a wider column



**Figure 5**

Typing headlines on the pasteboard beyond the boundaries of the page frees you from automatic column width limits. When the headlines are finished, they can be moved onto the page.

Second, to wrap the copy under the letter, select the text and pull the tab up to the line near the bottom of the drop cap. Then use the selection arrow to drag the column guide back to its original position at the left. Again select the text, click on the plus sign tab, and flow the remaining copy into the column under the letter. If the final result doesn't fill all the space available, you could change the text to a larger type size. Finally, for a polished result you might add another double line beneath the quote and put a shaded rectangle behind the drop cap. Be sure to save regularly as you make changes and additions.

## The Second Page

The procedure for filling out the second page of the newsletter builds upon the preceding techniques. You'll find that it makes good design sense to run the two news items left over from page 1 side by side across the top of page 2. After placing the news items, I added a decorative illustration and two excerpts from Goethe. I moved the excerpts around until I was satisfied with their placement on the page.

Once all the text elements are in place, you can add headlines as before. To simplify working on the column title, you might want to type it on the "pasteboard" to the left of the page; there you can experiment with different fonts and type sizes before dragging the title onto the page. Working on the pasteboard lets you concentrate on a component without worrying about column guides, snap to guides, or accidental selection of an adjacent element (see Figure 5).



## Finishing Up

When all the elements are finally in place, look over the pages and add embellishments if you wish: hairlines or thin lines running between columns, the newsletter number and date, possibly a few decorative elements. At this point you can hyphenate a few words if your ragged right margin looks too ragged.

When you're satisfied with your design, select Choose Printer from the Apple menu and choose the LaserWriter in the dialog box that appears. Since a small discrepancy exists between the Mac's screen display and the LaserWriter's resolution, you may sometimes find it necessary to reposition elements that

looked fine on the screen but that printed with slightly different spacing. It's also a good idea to proofread the printed newsletter for typos you may have missed on screen.

With final corrections made and the completed newsletter in your hands, you experience the feeling of satisfaction and accomplishment that comes from doing it all yourself. This is the allure of desktop publishing and of *PageMaker*. □

*Jay Kinney is a free-lance writer and illustrator in San Francisco.*

*PageMaker*  
*Aldus Corp.*  
*616 First Ave. #400*  
*Seattle, WA 98104*  
*206/467-8165*  
*List price: \$495*

## Quote of the Month:

**T**HERE ARE GREAT advantages in mystery. For when you always tell a man straightway what is at issue he fails to be impressed. Certain mysteries, even though they be manifest, must be accorded respect by veiled reference and silence in the interest of modesty and good morals.  
*from Wilhelm Meister's Journeys (1829)*

## The Goethe League News-Intelligencer

Vol. 4, No. 2  
February 1986

### Next Meeting Announced

The next meeting of the Goethe League will be held on Wednesday, March 26th, 1986, at 8 p.m. in the Meeting Room at the Oddfellows Hall, 1492 E. Seville Blvd., in Los Altos. Mr. E. R. Burroughs will speak on the topic of "Goethe's Theory of the *Ur-Plant*, and its relation to the work of Rudolph Steiner." Following his lecture there will be a demonstration of methods for perceiving the Archetypal Forms present in Nature. Refreshments will be served.

As we go to press, word has reached us that Mrs. Ellie Howe has agreed to speak on "Faust, Proust, and Hegel: The Three Stooges of the Intellect?" at the following meeting in April. The exact time and place of the meeting have not yet been determined and will be announced in our next newsletter.

### Reminder: '86 Dues

Membership of the Goethe League is now up to 45 active members. We'd like to welcome new members Patrick Hayden, Joe Fabricant, and Robin Clausen. All members are reminded that dues for 1986 are now \$20 and are payable to Clovis Trouille, Treasurer, immediately.

### New Maier Book

Congratulations to Michael Maier upon the publication of his new book of Goethe scholarship, *Atlanta Fuegens* (\$24.95, Miskatonic University Press, 1985). The work of over ten years of research and study, the book convincingly demonstrates that Goethe may have been a pen name used by the same group of literary pranksters that were responsible for Shakespeare's plays. This is Maier's second book. His first, an account of an imaginary conversation between Francis Bacon and Roger Bacon, was entitled *Bacon Bits*.

### Wedding Bells Ring

Yes, romance can blossom anywhere, even in the ranks of the Goethe League. Members Colleen Wilson and Ralph Clymer first met at a League meeting where Ms Wilson was speaking on "Frau von Stein and Goethe: A Neoplatonic Affair?" The lucky couple soon discovered that they had more in common than merely an interest in Goethe—both Colleen and Ralph are avid racquetball players and share a concern about the negative effects of injudicious interbreeding upon Chinese Pugs. The Wedding is set for June 15, 1986, and all League members are cordially invited.

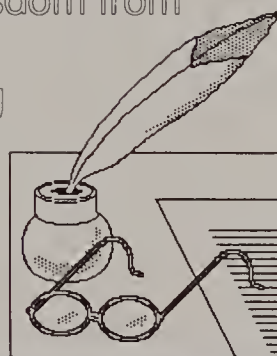
### False Rumor Denied

There is absolutely no truth to the rumor going round that League president Anthony Marcus was forced to resign after embezzling League funds to the tune of \$20,000. Anthony resigned "because I want to spend more time with my family." The Marcus family is presently enjoying a well-deserved winter vacation skiing on the Swiss Alps. Enjoy!

### Iphigenia Tickets

Only a few tickets remain for the presentation of Goethe's verse drama *Iphigenia* at the Community Center, Mountain View, on March 15th. League member Jack Boehme is directing this exciting drama which stars the Greek Club from Mountain View High School. Tickets are \$5.00 from Clovis.

More Wisdom from  
Johann  
Wolfgang  
von  
Goethe



### The Quiet Momentum of Single-mindedness

There are only two ways, I often heard Goethe maintain, to achieve great and significant ends—tyrannical power and single-mindedness. Tyrannical power is apt to be resented and to provoke opposition; it is the prerogative, moreover, of few favored individuals. Single-mindedness, however, an unflinching, systematic attitude of follow-through, is in the power of even the most modest individual to employ, and it will rarely fail of its aim since its quiet momentum irresistibly mounts with the passing of time. Where I cannot apply myself with this attitude of follow-through, where I cannot exert my influence without interruption, I find it more advisable to withdraw altogether. Fitful, capricious action, besides affording no guarantee of progress in the right direction, has a way, moreover, of interfering with the natural course of things and disturbing those healing agencies that would automatically come into play.

*from a conversation with Goethe reported by von Muller, 1832.*

### Superstition as virtue, Skepticism as ailment.

The only trouble with superstition is that it resorts to false means to satisfy a real need. It neither deserves the abuse that is heaped upon it, nor is it as uncommon as one would think in enlightened ages and among enlightened people.

For who can claim that his way of satisfying his indispensable needs is always pure, true, blameless, and complete? Where do we find so high a seriousness of purpose, backed by faith and hope, as to be without its admixture of superstition and delusion, frivolity and prejudice? . . .

It has often been said that skepticism is superstition in reverse, and this would seem to be pre-eminently an ailment of our own age: A noble deed must have its mainspring in selfishness, a heroic action in vanity; a great poem is reduced to terms of feverish excitement; and what is even stranger, the most significant phenomena are refused credence as long as there is a shred of a possibility of maintaining a negative attitude.

This insanity of our own age is certainly worse than that which prevailed when men perforce acknowledged extraordinary phenomena as existent and then attributed them to the devil. Superstition is a heritage of energetic, progressive personalities who are active on a large scale; skepticism is the mark of weak, petty-minded, regressive, and egocentric men. The former love to marvel, because this stirs the sense of the sublime of which their souls are capable; and since this is always accompanied by a certain shudder of apprehension, the suggestion of an evil principle is close at hand. An impotent generation, on the other hand, feels the sublime as a menace to its existence; and since no one can be expected to submit willingly to his destruction, these people are perfectly right in refusing to acknowledge what is great and colossal when they meet it as part of the contemporary scene. They wait to modify their views until it has passed into history and presents a more tolerable aspect, its brilliance subdued by a sufficient distance from the observer.

*from On Theory of Color (1810), pp. 40, 165-9.*

*The finished newsletter (above and right), printed on the LaserWriter, shows that PageMaker can produce professional-looking publications. The program lets you change the layout of a page without peeling up glued-down pieces of text or artwork.*



# Hypermedia

Jeffrey S. Young

*It's the twenty-first century. After a hard day putting out fires all over the galaxy, you've finally beaten your way through the spaceship-locked airways and found your way home. You pop a cold one and settle into a favorite chair to enjoy an evening's light entertainment on the gogglebox.*

*In front of a Macintosh-like computer, you casually scroll through the text of a space romance. The story's two main characters have landed on a sandy beach, located somewhere in the Tortugas. The description of the beach sounds particularly appealing, so you decide to look at this section of text in closer detail, perhaps find a new place to take your monthly vacation. With a deft turn of the mouse, you slide the blinking cursor over to the word Tortugas and triple-click on it. Instead of the word becoming highlighted, new text spills onto the screen at the point where you triple-clicked, telling you everything you could possibly want to know about the Tortugas. Simultaneously, another window pops onto the screen and displays a travelogue video that corresponds to the text unfolding on screen.*

Science fiction? Not quite. This scenario depicts a new kind of electronic information medium, hypermedia, which promises to change the way ideas, documents, and even works of art will be generated in the near future. Briefly, a hypermedia system allows authors to link together, in an orderly but nonsequential way, information created with a variety of media. Like an encyclopedia, this system connects ideas and references by directing readers to other documents. But unlike an encyclopedia, it gives readers electronic bridges for reaching the referenced information quickly and easily:

Readers can browse or create pathways through linked, cross-referenced, annotated documents consisting of text, pictures, numerical data, computer graphics, music, or video with the click of a mouse button. For instance, on a single computer screen, a chemist could manipulate molecular models, write a research paper, and read relevant reference material. Today, hypermedia is a growing area of research at universities such as Brown, MIT, Stanford, and Carnegie-Mellon, as well as in the high-tech labs of companies like Apple, IBM, Xerox, and AT&T.

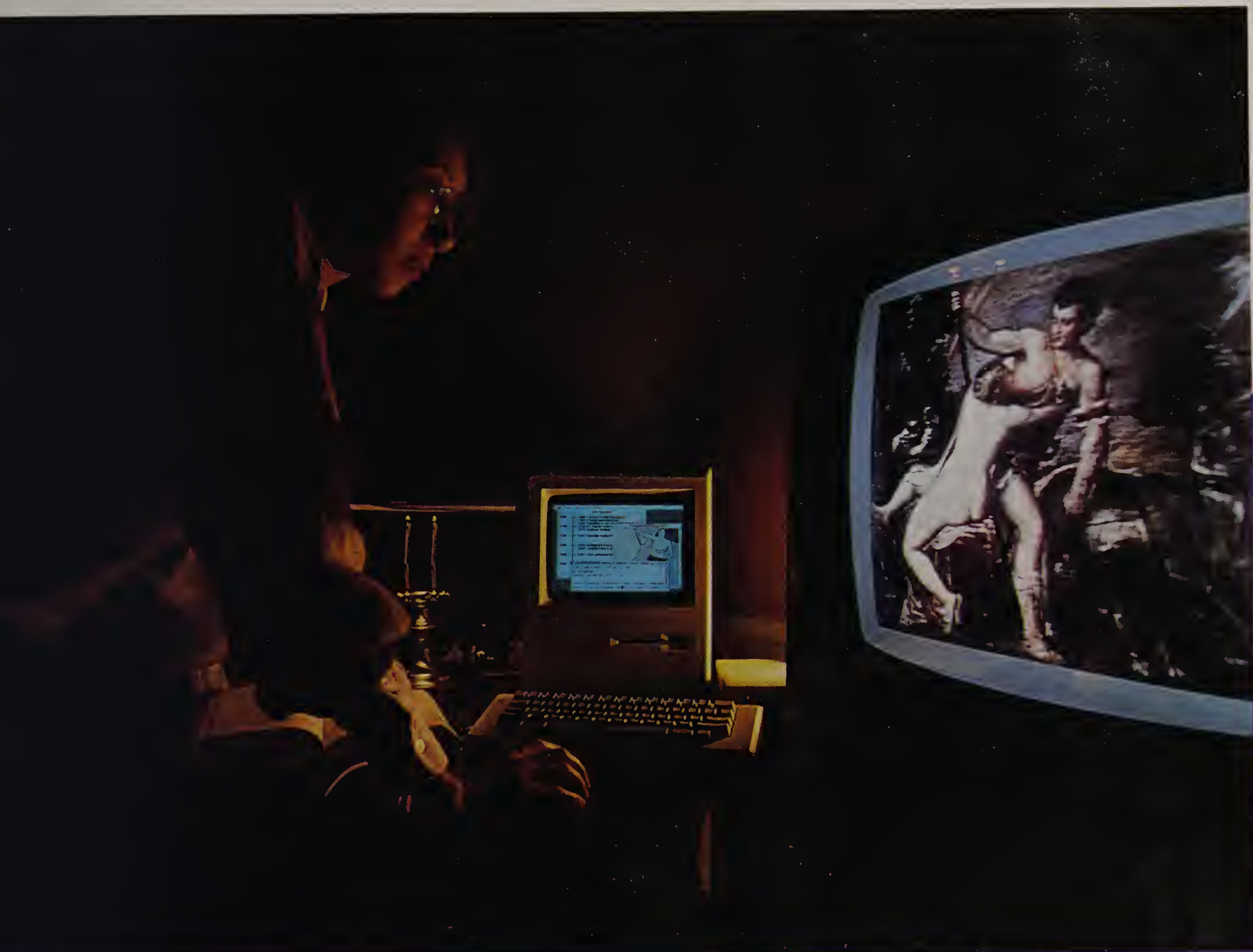
The impetus for hypermedia developed from pioneering research done in the early 1960s by a pair of noted blue-sky thinkers: Douglas Engelbart and Ted Nelson. Engelbart is credited with the original design of the mouse and much of the seminal work the Macintosh was based upon (see "The Macintosh Family Tree," *Macworld*, November 1984). Nelson, who is best known for his underground classic *Computer Lib*, coined the words *hypermedia* and *hypertext*.

## Augmentation

While in graduate school at the University of California at Berkeley, Engelbart was inspired by the ideas of Franklin D. Roosevelt's science advisor, Vannevar Bush. In an article that appeared in the *Atlantic* in 1945, Bush proposed a machine, called Memex, that would improve the quality of human thinking by providing quick access to immense databases of information. In 1962 Engelbart wrote a scholarly report outlining his ideas for adapting Bush's concept to the computer. Engelbart didn't use the term *hypermedia* but called his idea *augmentation*, as in "augmenting human intellect." What Engelbart had in mind, based on the potential he saw in the early computing devices, was a set of tools that would provide an entirely original way of organizing and retrieving information.

The original work for the project was done under contract for the United States government at SRI Inter-





*This hypermedia system sets up links among reference texts about Titian's Venus and Adonis and composition diagrams. Materials can also be cross-referenced to a video display.*



national and funded by Advanced Research Projects Agency (ARPA). Today the United States government, especially the Air Force, is still the prime user of Engelbart's creation.

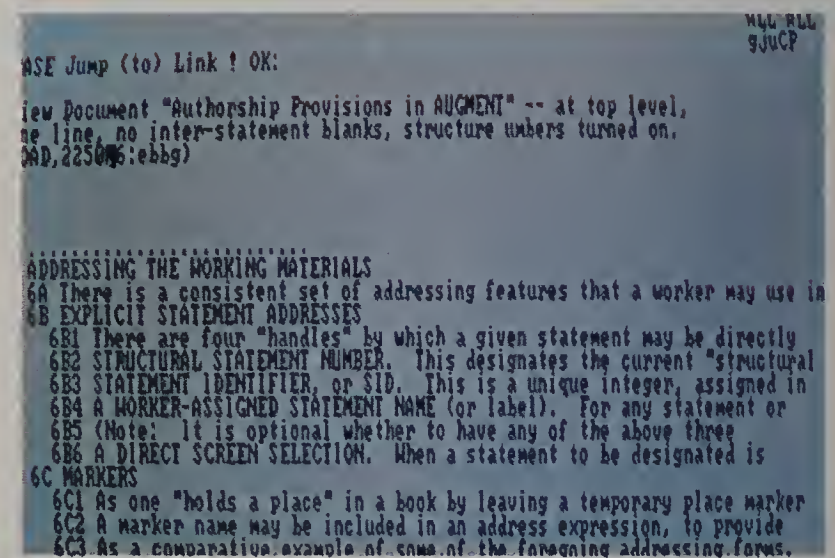
## The Hypermedia Link

By 1968 Engelbart had a core system, named NLS (on Line System), that included a mouse, multiple windows, electronic mail, and teleconferencing capabilities. In 1978 SRI brought NLS out of the research institute and sold commercial rights to Tymshare, of Cupertino, California. Tymshare renamed the system Augment and marketed it as an office automation product. McDonnell-Douglas, which subsequently purchased Tymshare, now markets Augment as a commercial network system. An Augment system such as the one the Air Force uses requires several mainframes and is well suited to such jobs as writing documentation for complex technical systems. Augment has sophisticated facilities for editing text and graphics, as well as for managing complex databases. The feature that makes Augment an extraordinary tool for scholarly and scientific research is the capability to create links between documents. For example, if you wanted feedback on a research paper you were writing, you could send your document by electronic mail to other scholars for review. Those scholars could in turn link their comments to the original document and set up links within their documents directing you to other reference material. Somewhat like *ThinkTank* on the Macintosh, documents can expand or contract to reveal additional levels of information. You can annotate an entire collection of relevant literature for a particular topic in a single document showing all of the links.

With so much information available, you could easily become overwhelmed trying to extract one particular piece. To circumvent this potential problem,

Augment has viewing filters that let you selectively control the scope, content, and format of information displayed on the screen. For example, in a complex system's documentation, such as an operating manual for the space shuttle's guidance systems, you can tell the system to show only specific information—for example, diagrams and footnotes to technical specifications. In addition, you can combine viewing filters with passwords to restrict access to sensitive materials.

You can access the Augment network with your Macintosh, but the average cost—about \$18 per hour—is a little high for the casual user.



## Augment

The Augment system provides viewing filters so you can control the information displayed. After choosing the Jump (to) Link command and clicking on a specially formatted citation embedded in the text, the linked document appears on the screen.

## Xanadu

While Engelbart was developing Augment, Ted Nelson was simultaneously dreaming up an information processing system with many similarities to Engelbart's, including links and viewing filters. Nelson describes his system as *hypertext*—an immense reservoir of the world's literature through which people can browse randomly and create new documents by combining fragments of existing ones. Hypertext is not restricted to text; like hypermedia, hypertext can include sound, pictures, and other types of information.

Whereas Engelbart's vision is demonstrably practical, Nelson's is decidedly literary. He calls his hypertext system Xanadu, after the "magic place of literary memory" in Samuel Taylor Coleridge's poem "Kubla Khan."

The fundamental building block of this new-age Xanadu is the unified data pool, an electronic repository of all the documents that reside in the system. No main version of a document exists, just the evolving accumulation of changes made to the original document.

To retrieve a particular document from the system, the bits and pieces making up the text must be re-assembled from the original source documents.



Author of the Augment information processing system, Douglas Engelbart is also credited with the invention of the mouse, in 1964.

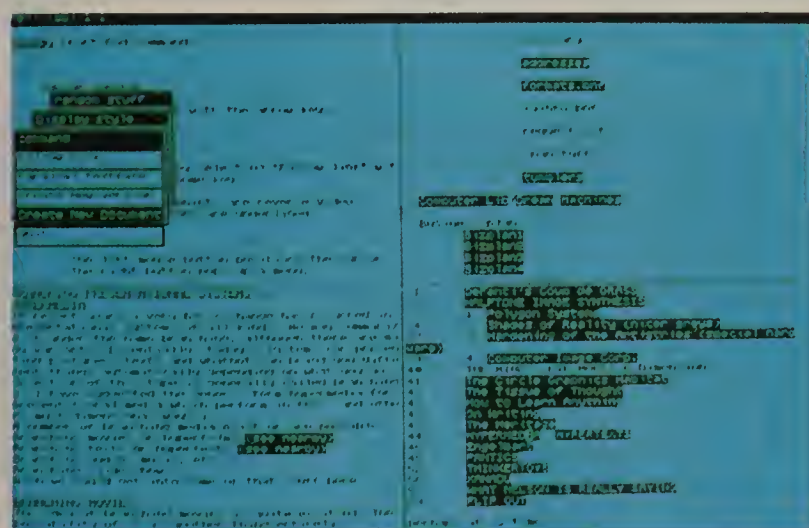




Computer pioneer Ted Nelson originated the word hypermedia.

Nelson claims to have developed a programming algorithm for organizing the layers of text and indexing the enormous number of links necessary to piece together text in this manner.

The great advantage of Nelson's system is the reduction of space required to store information in a Xanadu file server or on a hard disk. In most systems, copies of new versions of a document duplicate much of the material in the old versions. In Xanadu, only the original document and the changes made to the original are retained. The Xanadu storage system also makes it easy to reconstruct previous versions of documents. If a lawyer wants to compare two versions of a legal document, for example, the system can show word for word what parts of two versions are the same. Another key factor in Nelson's scheme is copyright control. A Xanadu system can easily track the use of original material and provide evidence of unauthorized uses of information.



### Xanadu

The Xanadu hypertext system, running on a Sun Microsystems computer, can split the screen into numerous windows. Highlighting or underlining shows a link to another document. Text from a document that has been incorporated in another changes if the original is rewritten.

Nelson's crusty-individualist attitude has made it difficult for him to sell his work, although he's still a provocative lecturer on computers and the future. Xanadu requires a fundamental reorientation to the very nature of words and knowledge. In his book *Literary Machines*, Nelson views Xanadu as the only storage and retrieval system that can adapt to the new paradigms and information demands of the future. Currently, Nelson's Xanadu Corporation markets the system, and the company is trying to find financing for a personal computer-based system. One version now runs on a Sun Microcomputer workstation in San Jose, California. Nevertheless, making the world's existing body of documents compatible with Xanadu is probably as much a pipe dream as Coleridge's "stately pleasure dome."

### The University Connection

The research labs of several universities are working to make hypermedia a reality. At Brown University in Providence, Rhode Island, for instance, an early collaborator and follower of Nelson and Engelbart, Andy van Dam, has been fine-tuning the country's most advanced educational hypermedia project. With Nelson, van Dam created one of the first working hypertext systems in 1967 and 1968. Although IBM research grants funded it, and the NASA Manned Space Center eventually used it on the Apollo Project, the Hypertext Editing System never caught on commercially. Philips, the electronics giant of the Netherlands, marketed a version of the system for a time, but by the early 1970s van Dam and Nelson had parted paths.

Van Dam helped develop a poetry course at Brown University in 1975 that utilized FRESS (File Retrieval and Editing System), a successor to the Hypertext Editing System. One of the experiments van Dam



Andy van Dam developed one of the world's first working hypertext systems with Ted Nelson in 1968.



and his associates tried was to reveal progressively more of the linked information about a poem as the week transpired. They started with the poem alone, then added a simple level of analysis, and by the end of the week revealed all the critical references. This idea was similar to the viewing filters that Engelbart used in Augment. "If you were looking from five miles up in an airplane, all you would see is major arteries, and that's

● ● ● ● ● *Clicking on the text of Romeo and Juliet reveals either commentary or a scene from the Zefferelli film.*

probably all you need to see. But if you're driving, then you want to know about more than major arteries—you also want to know about byways," explains van Dam.

The courseware developed with FRESS wasn't limited to multiple reference windows for annotations and footnotes. The system included an active student-teacher bulletin board as well. "The hypertext system was also a vehicle for a tremendous amount of electronic graffiti, marginalia, and dialog among people," says van Dam.

For the most part, the experiment was a great success with the students. The procedure for establishing links was complex, however, and the system provided few spatial cues, so students sometimes got lost in the maze of interconnected documents. In addition, at that time the expense of computers powerful enough to make the multiple window system feasible and to maintain a complex knowledge base was prohibitive. The projects were shelved until the Macintosh/Lisa generation of computers came along.

### Intermedia

With desktop computers, like the Lisa and the Macintosh, the potential for widespread enhancement of the scholarly process with hypertext/hypermedia was one step closer. In the spring of 1983, Brown University established the Institute for Research in Information and Scholarship (IRIS) to oversee the development of an integrated network of advanced personal computers called scholar's workstations. Brown aims to have several workstation classrooms in operation by 1988. A classroom might set up as many as 50 individual workstations in a lecture hall.

More than 15 years of research with hypermedia systems at Brown led to the creation of an author's tool akin to Engelbart's Augment and Nelson's Xanadu—Intermedia. Leading the current project is Norman Meyrowitz, IRIS scholar's workstation group manager. He describes Intermedia as a collection of tools that authors use to set up links between documents created with different applications. IRIS is currently developing Intermedia course-ware that combines pictures, voice, animated computer graphics, video, and text. For example, a music instructor giving a seminar on Beethoven might create a set of course materials that would include a biography of the composer's life with links to the score of each work mentioned, a videodisk of Beethoven's life, and other texts related to his work. In addition, each score could be linked to digital recordings of the piece or videotapes of performances of the work. Using Intermedia on a computer network, students could electronically receive and hand in assignments.

With funding from the Annenberg/Corporation for Public Broadcasting Foundation, IBM, and others, Meyrowitz and programmer Steve Drucker created an Intermedia demonstration system for one of Shakespeare's plays. Running on a Macintosh, the demo sets out the text of *Romeo and Juliet* with links, denoted by special symbols, placed within the text. Clicking on these links opens new windows that display annotations and commentaries on the play. But the source of real excitement is that Shakespeare's text cross-references to a film database on a laser disk player connected by cable to the computer. Clicking the mouse on any line from the drama on screen shows the line performed in the Zefferelli film version of the play on a TV monitor. Meyrowitz and Drucker plan eventually to catalog all of Shakespeare's plays—perhaps using the BBC versions on laser disks—and make the system available to schools and libraries.

Throughout the buildings and dormitories of the school, Brown has installed a network that not only transmits computer signals but video and FM broadcasts as well. Soon, in addition to a campuswide com-



*Norman Meyrowitz heads the IRIS workstation project, which provides a hypermedia path for scholarly research.*



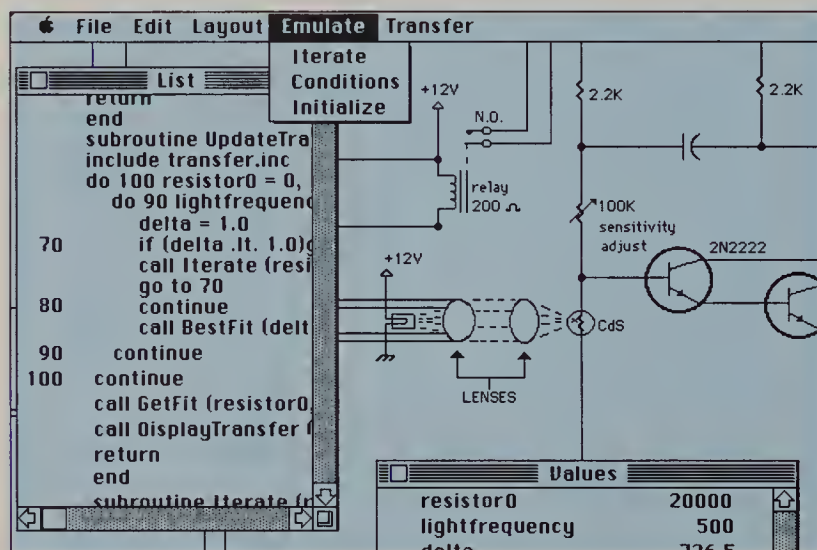




# We've taken FORTRAN to the Macs.

Now your Macintosh™ can run with the big guys. Microsoft's new FORTRAN compiler puts the power of mainframes within your reach. Without complications, without restrictions. Because our compiler is the only full, ANSI standard FORTRAN '77 for the Macintosh.

Fortified to exceed all  
your daily requirements.



Microsoft® FORTRAN unleashes all your Mac's resources. Now your scientific and engineering programs can have access to Mac graphics. An IEEE math package. Plus huge virtual arrays for data. Boosted with the blazing speed of compiled code.

Our compiler makes the programming faster as well. FORTRAN enhancements like DO...WHILE make structured programming easy. Dynamic overlays let you run mainframe-size programs. Even in 128K of RAM. And a powerful set of utilities gives you complete library management. Not to mention dynamic linking, a program editor and an interactive source code debugger.

In other words, Microsoft FORTRAN gives you just what you'd expect for your Mac—the max.

So get moving. Call (800) 426-9400 for more information and the name of your nearest Microsoft dealer. In Washington State and Alaska, call (206) 828-8088. In Canada, (800) 387-6616.

## Microsoft FORTRAN Compiler Version 2.1

### Microsoft FORTRAN Compiler

- Full ANSI FORTRAN '77 — the standard.
- Port mainframe and minicomputer applications with little or no change.
- Calculate with IEEE-standard floating-point numbers.
- Performs direct 32-bit integer arithmetic.
- Supports virtual arrays as large as available disk space.
- Compile up to 1600 lines per minute.
- Optionally compile into Apple's MDS assembly language.
- Structure your code using separately compiled modules, statement functions, block IF, block DO and SELECT CASE constructs.

### Interactive Window-Oriented Source Debugger

- View your source file while debugging.
- Single-step through your program.
- Set source-level breakpoints to control execution.
- Examine and modify your variables.
- Search source code for labels or line numbers.
- Examine file status for all units.

### Extensive Toolbox Interface

- Access over 475 built-in Macintosh toolbox functions, including windowing, cursor handling, pull-down menus, mouse tracking, event queue handling and desk accessory management.
- Draw using powerful Macintosh graphics routines: points, rectangles, ovals, arcs, polygons and regions.

### Library Manager

- Build your own libraries of useful subprograms.
- Include over 200 procedure files per library.
- Mix FORTRAN and assembly language procedures.

### Object Code Linker

- Dynamically link routines as needed while executing.
- Statically link subprograms for faster execution.

### Other Productivity Tools

- Apple's source code editor—optimized for faster programming.
- Apple's resource compiler—takes advantage of special Macintosh capabilities.

### System Requirements

- 128K Macintosh.
- One disk drive.

**Microsoft**  
The High Performance Software.™



# Macware Reviews

*MacOneWrite Cash Disbursements, MacSpell + ,  
Dinner at Eight, MegaDesk, Championship Star League  
Baseball, and the Hewlett-Packard LaserJet*

*Edited by Erfert Nielson*

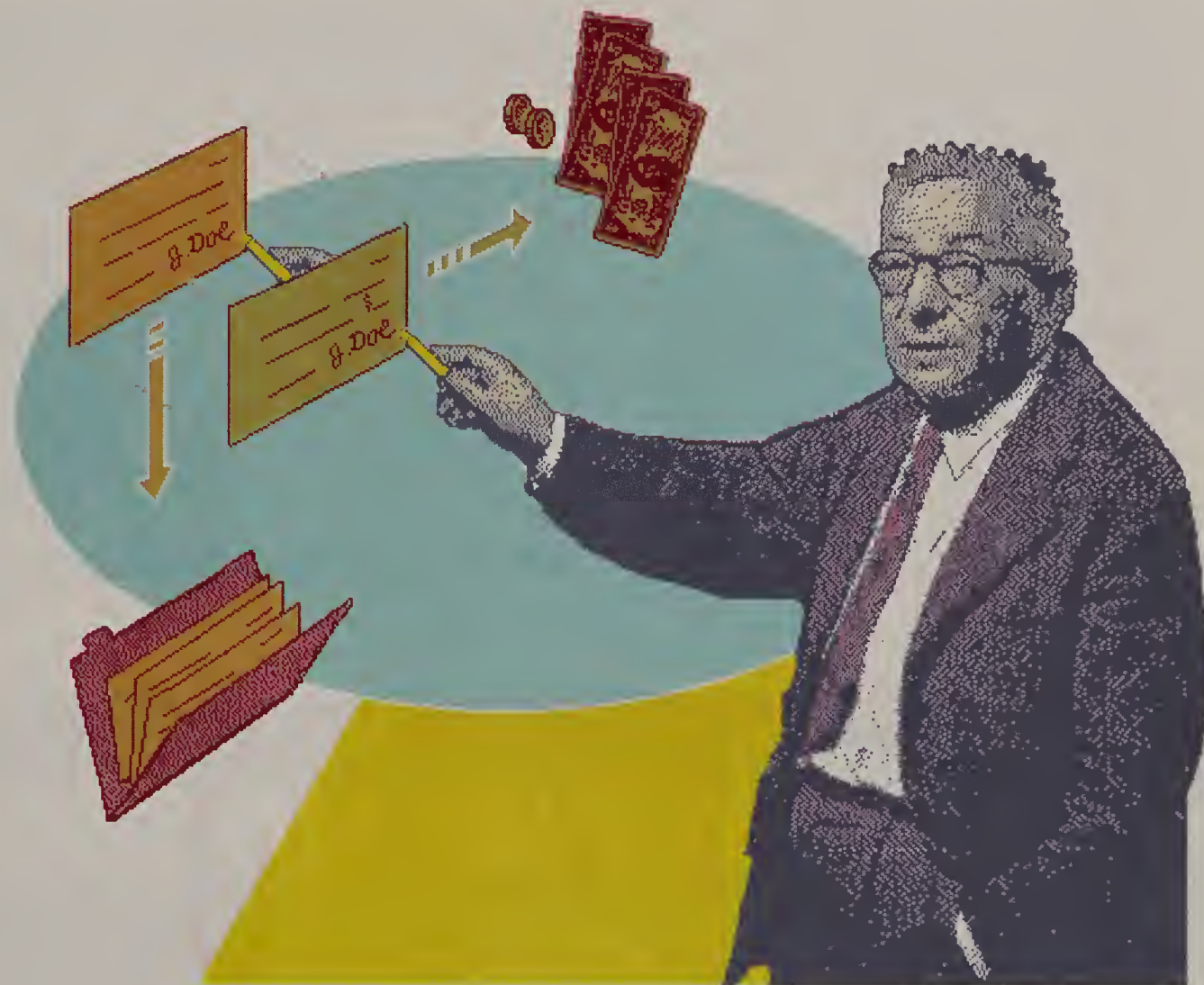
## For Simplicity's Sake

The best solution to a problem is often a simple one. Over six million small businesses rely on the time-tested, one-write (or "pegboard") accounting system. In a one-write system, each accounting event is recorded with some sort of paper transaction, which in turn is used to update accounting records. A cash disbursements system, for example, uses carbon-backed checks: each time you write a check, relevant transaction details are instantly transferred to an underlying cash disbursements journal. It's a simple and efficient system.

### Imitation as Flattery

To woo these small businesses to **MacOneWrite Cash Disbursements**, Sierra On-Line uses a simple tactic: *MacOneWrite* looks and works just like a manual pegboard system. The program takes virtually no time to learn and use if you're familiar with a manual one-write system, has some features unavailable in a manual system, and gives you the option of tying your cash disbursement records into Sierra On-Line's *General Ledger*, *Payroll*, and *Accounts Receivable* modules. The program's simplicity doesn't get you a break in price: at \$245 *MacOneWrite Cash Disbursements* itself represents a considerable disbursement.

*MacOneWrite* is more than adequate for tracking the cash disbursements of a small business. It prints checks and automatically records them along with bank



deposits, bank charges, interest income, and handwritten checks in a cash disbursements journal (see "Carbon Copy"). Journal data generates a year-to-date income statement that charts income against expenses by account number, a balance sheet that lists total assets and liabilities, a disbursements journal for reconciling bank activity, a chart of accounts, a vendor year-to-date report, and a vendor address list. You can print and display all reports.

### Follow the Bouncing Ball

The pegboard system coupled with the Macintosh interface makes *MacOneWrite Cash Disbursements* extremely easy to use. The program relies heavily on pull-down menus, adding Checks, Doing, Reports, Options, and Year to the menu bar. The Apple menu lets you take advantage of

the Mac's Note Pad, Clipboard, Scrapbook, and Calculator while using *MacOneWrite*.

Once you've started the program, you perform each accounting transaction by clicking the appropriate transaction under the Doing menu and entering data in a large window that's tied to the program's core, the disbursements journal. The window changes format to match the transaction you're working on. For example, you enter the data for a check in a window that resembles a large check. You simply fill in the appropriate fields, and the data is automatically posted to the disbursements jour-



nal and reflected in accounts linked to the check. The check can be printed immediately or saved for batch printing.

To minimize data entry, *MacOneWrite* automatically enters appropriate data from its files, such as a vendor's address or an account number's printed description. You can look up, add, or delete vendors or account numbers at any time, or change or cancel a transaction in the middle of the process.

The program requires a single-drive, 512K Macintosh. Because most of the 110K program is RAM-resident, it is best to keep data on a separate disk and use a second disk drive. The number of accounts and vendors you will be able to handle is limited only by disk space.

## Building for the Future

At first glance, it seems strange that a cash disbursements program would include an income statement, a balance sheet, and a complete chart of accounts.

Any accountant will tell you that it's impossible to generate complete versions of these documents based solely on cash disbursement records. Items such as depreciation on the income statement and accounts receivable on the balance sheet cannot be gleaned from a cash disbursements journal. Unless you tie into Sierra On-Line's other accounting modules, these items will register zero, which can be misleading. If

you anticipate moving from a cash disbursements-based system to a more sophisticated system, you get the best of both worlds: the cash disbursements module stands on its own and ties into a more elaborate system without missing a beat. For the person who does not intend to move on to the rest of the series, however, these tie-ins create potentially confusing gaps.

DATE	TO THE ORDER OF	DESCRIPTION	CHECK #	AMOUNT
5/22/86	Rick's Roofing	roof repair	2	732.87
5/22/86	Eclectic Electric Co.	solar panels	3	435.45
5/28/86	Bernie the Attorney	legal fees	4	1254.00
5/29/86	Furniture Emporium	executive desk	5	847.62
5/29/86	Elitist Volvo, Inc.	windshield washer rebuild	6	342.00
	760 Over Drive			
	Fairlawn, NJ 10433			

Pay Three Hundred Forty-Two and 00/100 dollars

Sierra

Account	Amount	Account	Amount
700 Repairs & Maintenance	342.00		0.00
	0.00		0.00

**Carbon Copy**  
MacOneWrite mimics a manual one-write cash disbursement system right down to the pegs. As checks are written, pertinent data instantly transfers to the underlying disbursement journal.

# It's time for all smaller businesses

**Open Systems introduces Open For Business.™ Accounting software solutions designed to fit the needs of small to very small businesses.**

Until now, smaller businesses either settled for manual book-keeping systems or costly service bureaus. Not any more. Now there's Open For Business I and II.

Open For Business I is the ideal entry level software package.

Open For Business II is the software package specially designed for small companies with somewhat larger needs.

Both Open For Business products provide key business indicators that have never been readily available to the smaller



### Dare to Err

Although no computer has ever figured out how to stop humans from exercising their inalienable right to enter incorrect data, computers can be programmed to flag data that does not follow established form. Unfortunately, *MacOneWrite* doesn't provide error checking. There are several ways to foul up your *MacOneWrite* data and render your reports inaccurate. You can delete an account number even if there has been activity in that account during the current period, you can overwrite a vendor or account number's year-to-date balance, or you can write a check and post it against a nonexistent account number. *MacOneWrite* doesn't detect any of these errors. It's up to you to check and double-check all your entries.

Another limitation is *MacOneWrite*'s inability to track more than one checking account. Small businesses with more than one account simply can't be accommodated by the program.

*MacOneWrite*'s documentation is a brief 63 pages but is reasonably complete. It includes a short tutorial, a reference guide to program functions, an index, and

a glossary of accounting terms. It is clearly written and well illustrated. The text assumes you are familiar with one-write systems and their underlying accounting principles.

### The Bottom Line

*MacOneWrite Cash Disbursements* is a natural choice for people who use manual one-write systems and who want to automate their books without having to learn a new system. The program is easy to use, and the transition from manual to automated system has never been so painless. If you anticipate continuing your climb up the ladder of automation, *MacOneWrite Cash Disbursements*' tie-ins to its *General Ledger*, *Accounts Receivable*, and *Payroll* modules will make that transition easy. Take a look at those modules, though, before you begin an investment in the whole series.

*MacOneWrite*'s major drawback is its lack of adequate accounting controls. There are too many ways to enter erroneous information. If you or your bookkeeper are meticulous, you won't have a problem. If you are prone to sloppy bookkeeping, however, do your accountant a favor and look into programs with more extensive controls. —Steve Mann

*MacOneWrite Cash Disbursements*  
Sierra On-Line, Inc.  
P.O. Box 485  
Coarsegold, CA 93614  
209/683-6858  
List price: \$245

## Relief for Reckless Writers

Since the invention of the typewriter, writers have been confounded by the tradeoff between speed and accuracy. The advent of word processing freed writers to recklessly pound out their thoughts without regard for typos and spelling errors, because the mistakes could always be cleaned up later. But word processing software does not provide the complete solution to the speed versus accuracy equation. What if, in addition to being a reckless writer, you happen to be a pathetic proofreader or a shabby speller? In such cases, you are still burdened with the dictionary, the thesaurus, and the arduous task of proofreading.

(continues on page 129)

# to stand up and be accounted.



business before. Now, for the first time, you can actually measure the "health" of your enterprise at a glance; receive immediate status reports of current sales and expenses; and even generate graphic displays of specific sales and expense reports.

And of course, both Open For Business products are backed by Open Systems, whose reputation for unsurpassed quality and client support has set new industry standards.

So stand up and be accounted. Call 1-800-328-2276 right now.

## OPEN SYSTEMS™

BUSINESS AND  
ACCOUNTING SOFTWARE  
6477 City West Parkway,  
Minneapolis, MN 55344

A UCCEL Company

Circle 436 on reader service card



The "only flaw"  
is gone.

**MacStation II**  
holds 400 sheets  
of paper.

# Accommodating Spaces.

Is your computer space about to be condemned?

Do you spend hours each day looking for your program disk?

Let's face it. Mac mess is no fun. It's frustrating and a terrific time waster.

There is a way to organize your Mac and peripherals into the productive tools they were intended to be.

Meet MacStation II<sup>†</sup>, the upgraded offspring of the original MacStation.

MacStation II is the same strong and durable home for your Macintosh that significantly reduces the space necessary for printer, disk drive, mouse, manuals and disks. The same unit praised by professionals for its efficient ventilation that will not cause your Mac to overheat. And MacStation II provides enough space to accommodate 400 sheets of paper under your printer so you won't need space behind the unit for paper storage.

That means there's more space for you. To work effectively and conveniently. And enjoy your computer more.

MacStation II is constructed of high-impact plastic to match your Mac's color and texture. And it is extremely compatible with Imagewriter I and II.

But the best news is MacStation II doesn't cost an arm and a leg either. It's only \$98.88<sup>‡</sup> at your favorite dealer.

Isn't it time you got organized?

To order direct or for the dealer nearest you call toll free:

**1-800-622-7246.**

Residents in Washington or outside the U.S.A. call: (206) 882-0551.

**MicroRain™**

\*See MacUser's review in no-holds-barred Minifinders Dept.

†Photo shows the original MacStation. MacStation II has additional shelf (not shown) between the top of the unit and the printer.

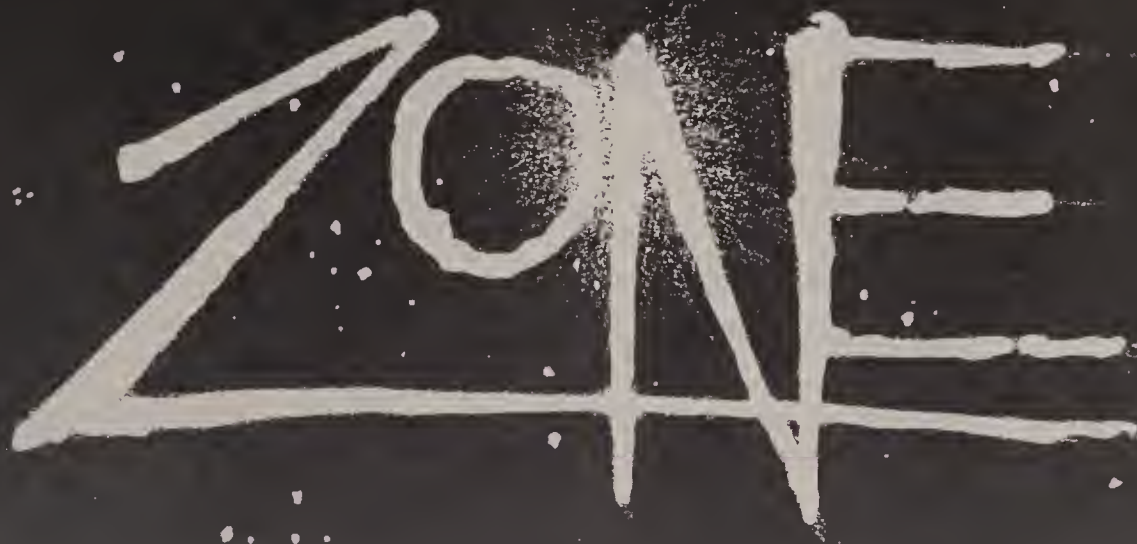
‡This is our suggested retail price. MicroRain's dealers set the actual selling price. Apple is a registered trademark. Macintosh and Imagewriter are trademarks licensed to Apple Computer, Inc.





You're dialing through to another dimension. A dimension not only of sales and service, but of satisfaction. A connection into a wondrous warehouse whose boundaries are that of imagination. Next call, The Saving Zone!

# S A T V H E N G



## ACCESSORIES

<b>Anchor Automation</b>	
Graphics Mac Volksmodem	7.25
<b>Curtis Diamond</b>	28.25
Emerald	34.00
Ruby	51.00
Safestrip	17.00
Sapphire	45.25
<b>Inland Data File N File Micro</b>	2.50
File N File Micro 5	1.50
File N File Micro XT	17.00
File N File Micro 3 1/2	19.50
Imagewriter Cover	5.50
Macintosh Cover	5.50
MacSwivel/MacTilt	19.75
Micro 5 Spectrum	7.25
<b>Kalmer Designs</b>	
Micro Disk Cab Teak #452	13.50
Micro Disk Cab Teak #453	21.50
<b>Kensington Microware</b>	
Control Center	56.50
Image Writer Dust Cover	7.75
Mac External Drive Cover	5.50
Mac Surge Suppressor	28.25
Maccessories A-B Box	56.50
Maccessories Disk Case	17.00
Maccessories Dust Cover	7.75
Maccessories Port. Modem	79.25
Maccessories Starter Pack	51.00
Maccessories Swivel	19.75
Maccessories Tilt/Swivel	19.75
MacDisk Drive Clean Kit	17.00
Mouse Clean Kit & Pocket	14.00
Mouse Pocket	5.50
PC Saver	28.25
Travelling Disk Case	7.25
Wide ImageWriter Cover	7.75
<b>MicroSoft Mac Enhancer</b>	141.25

## BUSINESS SOFTWARE

<b>Batteries Included</b>	
Mac Battery Pac	28.25
<b>Borland Sidekick</b>	48.00
<b>Continental Home Accountant</b>	85.00
<b>Creighton Development</b>	
Mac Home	28.25
Mac Office	27.75
Mac Spell	56.00
Pro Print	42.00
<b>Davidson &amp; Assoc.</b>	
Speed Reader II	39.50
<b>Electronic Arts Financial CKBK</b>	28.25
<b>Hayden Ensemble</b>	170.00
Hayden Base	85.00
I Know It's Here Somewhere	34.00
Speller	45.25
<b>InterMatrix Cheque Book</b>	28.25
<b>Living Video Text Think Tank</b>	110.50
Think Tank 512	139.00
<b>MainStreet Soft Main Street Filer</b>	56.50
<b>MicroSoft Chart</b>	70.75
Excel	224.00
File	110.50
Learning M Chart Mult Mac	34.00

<b>Mac Package (3 pack)</b>	207.50
Multiplan	110.50
Word	110.50
<b>Monogram Dollars &amp; Sense</b>	85.00
Forecast	39.50
<b>Odesta Helix</b>	224.00
<b>PeachTree</b>	
Back To Basic/Acct Gen	99.25
Back To Basics	99.25
<b>Sierra On Line Mac One Write</b>	139.00
<b>Softsync Personal Accountant</b>	51.00
<b>Software Publishing PFS File</b>	70.75
PFS File Report (Bundle)	99.25
PFS Report	70.75
<b>T-Maker Click On WorkSheet</b>	43.25
<b>Videx Mail Center 2 Comps</b>	169.50
Mail Center 6 Comps	283.00
<b>Visicorp Crunch</b>	167.25
<b>William C. Brown Co.</b>	
Multiplan For the Mac	15.25

## CREATIVE & EDUCATIONAL SOFTWARE

<b>American Training Intl</b>	
How to use Multiplan	28.25
Mac Coach	42.50
<b>Hayden Music Works</b>	45.25
Score Improvement SYS/SAT	58.50
Score Improvement System	56.50
Turbo Turtle	28.25
Video Works	56.50
<b>Human Edge Communications</b>	110.50
Management	141.75
Mind Prober	28.25
Negotiation	167.25
The Sales Edge	141.75
<b>MindScape S.A.T.</b>	39.00
<b>Scarborough Mac 3</b>	85.00
Mac Pack	85.00
MasterType	28.25
<b>Simon &amp; Schuster</b>	
Great Intl Paper Airplane	22.50
Typing Tutor III	34.00
<b>Stoneware D B Master</b>	110.50
<b>Synapse Mindwheel</b>	25.50
<b>Time Works</b>	
Evelyn Wood Dynamic Reader	39.50

## DISKETTES

<b>Sony 3 1/2 10 Pack</b>	28.25
<b>Verbatim 3 1/2 10 Pack</b>	27.00
<b>Memorex 3 1/2 10 pack</b>	28.25
<b>Brown 3 1/2 10 Pack</b>	21.00

## GAME

<b>Activision</b>	
Championship Star Baseball	19.75
<b>Aegle Development</b>	
Mac Challenger	28.25
Pyramid of Peril	28.25

<b>Artis Hearts</b>	1.99
Soft Forms	22.50
<b>Artworx MacStrip</b>	22.50
<b>Bantam Software</b>	
S Holmes Another Bow	25.50
<b>Blue Chip Baron</b>	28.25
Millionaire	28.25
Squire	28.25
Tycoon	28.25
<b>BorderBund Ancient Art of War</b>	25.50
LoadRunner	22.50
Cyborg	22.50
<b>CBS Software Felony</b>	14.00
Murder By the Dozen	14.00
<b>Creighton Development</b>	
MacCommand	19.75
<b>Datasoft Conan</b>	22.50
<b>Epyx Rogue</b>	17.00
Temple of Apshal Trilogy	22.50
Winter Games	22.50
<b>Hayden Holy Grail</b>	28.25
Masterpiece	22.50
PerPlex	22.50
Sargon III	28.25
Word Challenge	22.50
Word Challenge II	22.50

<b>Infocom</b>	
A Mind Forever Voyaging	25.50
Cuthroats	22.50
Deadline	28.25
Enchanter	22.50
Hitchhikers	22.50
Infidel	25.50
Planet Fall	22.50
Sea Stalker	22.50
Sorcerer	25.50
Starcross	28.25
Suspect	25.50
Suspended	28.25
Wishbringer	22.50
Witness	22.50
Zork 1	22.50
Zork 2	25.50
Zork 3	25.50
<b>MicroSoft Entrepreneur Mac</b>	28.25

<b>Miles Computing</b>	
Harrier Strike Mission	28.25
Mac Attack	27.75
<b>MindScape Deja Vu</b>	31.00
Racter	25.50
<b>Mirage Concepts Triva</b>	28.25
<b>Origin Ultima III</b>	34.00
<b>Penguin Pensate</b>	17.00
The Quest	22.50
Xyphus	22.50

<b>Professionals Soft</b>	
Super Sports Trivia	17.00
Trivia Fever	22.50
Trivia Fever Version 2	14.00
<b>Scarborough Make Millions</b>	28.25
Run For The Money	28.25
<b>Sierra On Line</b>	
Championship Boxing	22.50
Frogger	22.50
Ultima II	34.00

<b>Simon Beach Soft</b>	19.75
<b>Simon &amp; Schuster Wizardry</b>	34.00
<b>Spectrum Holobyte Gato</b>	22.50
<b>Strategic GemStone Warrior</b>	19.75
<b>Telarium Software Amozon</b>	25.50
Dragonworld	25.50
Fahrenheit 451	25.50
Rendezvous with Rama	25.50
<b>Videx Mac Calendar</b>	56.50
Mac Checkers/Reversi	27.75
Mac Fun Pack	22.00
Mac Gammon/Cribbage	27.75
Mac Vages	33.25

## GRAPHICS SOFTWARE

<b>Hayden</b>	
Art Grabber W/Body shop	28.25
Buildings	28.25
Computer Novel Const Set	28.25
Da Vinci Building Blocks	45.25
Da Vinci Comm. Interiors	113.25
Interiors	28.25
Landscape	28.25

<b>Kensington Microware</b>	
Mac Graphic Accents	28.25
Mac Type Fonts Headlines	39.50
Mac Type Fonts Text	28.25

<b>Kola Mac Vision</b>	169.50
<b>Magnum Soft McPic</b>	28.25
McPic/Volume 2	28.25
Slide Show Magician	34.00

<b>MicroSoft</b>	
Presentation Graphics/Mac	10.75

<b>Miles Computing</b>	
Mac The Knife	22.00
Mac The Knife Vol 2	27.75

<b>Simon &amp; Schuster</b>	
Mac Art Dept	22.50

<b>Suncom MacFont</b>	17.00
<b>T-Maker Click Art</b>	28.25
Click Art Effects	28.25
Click Art Letters	28.25
Click Art Publications	28.25

## HARDWARE

<b>Kola Mac K.A.T.</b>	133.75
<b>Paradise Systems Mac 10 Meg</b>	848.25
<b>Prentice PopCom Modem</b>	280.75
<b>Tecmar</b>	
Mac Drive 10 Fixed 5 Remov	1,867.00
Mac Drive 10 Meg Fixed	1,132.00
Mac Drive 5 Meg Remove	1,132.00

## Special of the Month

<b>Fanny Mac</b> with built in surge suppressor	\$75.00
<b>MacStation II</b> Holds 400 sheets of paper	\$68.00

## LANGUAGES

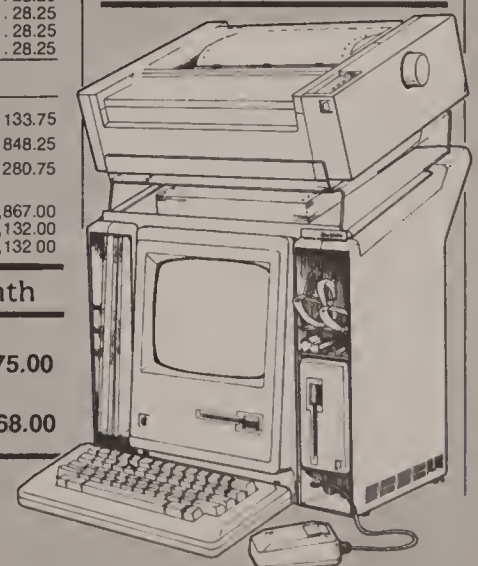
<b>Expertelligence Exper Logo</b>	85.00
Experisp	280.75
Experops 5	184.25
<b>MicroSoft Basic Interpreter</b>	85.00
Cobol Compiler	397.25
Logo Macintosh	70.75

## ORDERING INFORMATION

VISA, MASTERCHARGE AND AMERICAN EXPRESS

To order, call us anytime Monday thru Friday 9:00 to 9:00, Saturday 10:00 to 6:00. For fast delivery if ordering by mail, send cashier's check, certified check or money order. Fortune 1000 and Government checks honored immediately. Personal and other company checks allow 2 weeks to clear. Visa, MasterCard and American Express include card number and expiration date. Washington residents add 8.1% sales tax.

**Shipping Charges:**  
**Software** - \$3.00 minimum charge U.S. Mainland. With C.O.D. shipments add an additional \$2.00 U.S. Postal, APO and FPO add 3% (\$5.00 min.). Alaska or Hawaii add 6% (\$10.00 min.). Canadian orders add 10% (\$15.00 min.). Foreign orders except Canada add 18% (\$25.00 min.).  
**Hardware** - Please call for shipping charges.  
**Our Policy** - We do not guarantee machine compatibility. All products are new and include factory warranty, therefore ALL sales are final. Defective software will be replaced by the same item only. Defective hardware will be replaced or repaired at our discretion. Prices and availability subject to change without notice. Products purchased in error, subject to 15% restocking fee. All returns must have an authorization number. Call (206) 883-1975 to obtain one before returning defective products for replacement. Not responsible for typographical errors.



We carry all products for all computers. Call toll free for our prices:

1-800-248-0800 outside Washington 1-800-243-4200 in Washington





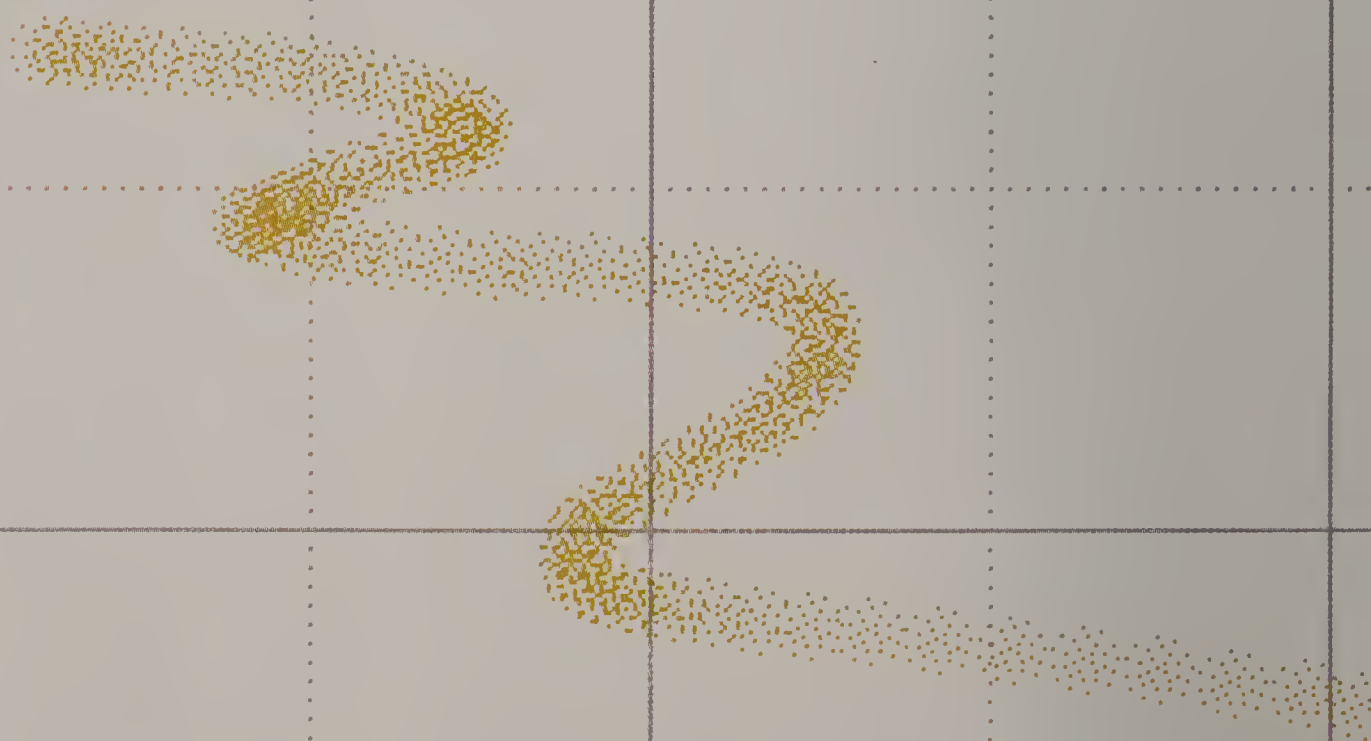
# Unleash Your Fingertip

Let's get right to the point:  
the computer for the rest of  
us can bring out the best  
in us.

All it takes is your Mac,  
your imagination, and Mac-  
world as your guide. And, of  
course, the tip of your finger.

Right now, unleash your  
fingertip and remove the  
postpaid card facing this  
page. Complete. Mail.  
Compute!

**MACWORLD**  
*The Macintosh Magazine*





Save  
\$23.40  
off the  
~~\$47.40~~  
cover price

Order Now to Take  
Advantage of This  
Limited Time Offer!

VISA and MasterCard  
Accepted!

Call TOLL FREE:  
800/972-3100

(in Nebraska  
402/895-7284)

Subscribe  
Now

YES! Please send me *Macworld*, the Macintosh Magazine

☐ \$24 for 1 year (12 monthly issues)

SAVE EVEN MORE!

☐ \$46 for 2 years (24 issues)

☐ Payment enclosed ☐ Bill me later

Name

Company

Address

City, State, Zip

Please allow 6 to 8 weeks for delivery of your first issue. Offer good in U.S. only. Offer expires December 31, 1986.

4AZA3

MACWORLD

Subscribe  
Now

YES! Please send me *Macworld*, the Macintosh Magazine

☐ \$24 for 1 year (12 monthly issues)

SAVE EVEN MORE!

☐ \$46 for 2 years (24 issues)

☐ Payment enclosed ☐ Bill me later

Name

Company

Address

City, State, Zip

Please allow 6 to 8 weeks for delivery of your first issue. Offer good in U.S. only. Offer expires December 31, 1986.

4AZA3

MACWORLD





NO POSTAGE  
NECESSARY  
IF MAILED IN  
UNITED STATES

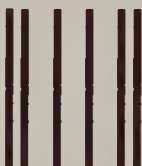


**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 1262 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Macworld**  
**Subscription Department**  
**P.O. Box 51666**  
**Boulder, Colorado 80321-1666**



NO POSTAGE  
NECESSARY  
IF MAILED IN  
UNITED STATES



**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 1262 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Macworld**  
**Subscription Department**  
**P.O. Box 51666**  
**Boulder, Colorado 80321-1666**





# 512K Memory Upgrade \$169.00

## PRICE INCLUDES:

### PARTS

- 16 256K 150 nano-second DRAM chips (faster than Apple chips)
- 17 30mil gold plated, machine screw, open frame, 16 pin DIP sockets
- One 74F253 multiplexer (distributes high addresses to new memory)
- 4 metal film resistors, one glass capacitor (for multiplexer circuit)
- One custom M-512 ultra-small, double-sided, solder masked printed circuit board on 7 pin gold header (multiplexer mount)
- Fully socketed; No piggy-backs or jumper wires; Fan not required

### SERVICE

- Expert labor, complete installation
- 120 Day Warranty, parts and labor
- **Software:** Ramdisk, Switcher, Switcher Manual, Memory Test, Disk Duplicator
- **Free Return Shipping**, 2nd day air, anywhere in United States (motherboard only)
- **Board Swap Only Upon Request**

Now, the highest quality upgrade in Silicon Valley is available to you at factory direct pricing. \$169 includes a 120 day warranty, a Mac Doctor™ Program Disk (RamDisk, Switcher, Memory Test, Disk Duplicator), and **Free Return Shipping** 2nd day air anywhere in the United States (of a motherboard only). Now that's service! Logic boards are swapped only upon request. To upgrade, ship your Mac motherboard or your entire Mac with payment or request for COD. If system down-time is unacceptable to you, we can ship you a complete 512K motherboard and refund you an exchange credit when you send us your swapped 128K board. Or do it yourself with our **512K Kit: all parts, instructions, software, \$99.** Call or write for Mac opening tools and instructions. Sony and Maxell disks available at cost plus 10% with any purchase. Walk-in upgrades in San Francisco area. University purchase order OK. Volume discount is available. Dealer inquiries welcome.

SEND YOUR BOARD WITH CHECK OR MONEY ORDER (CA RESIDENTS ADD 7% SALES TAX) TO:

## Mac Doctor Electronics

405 Lytton Avenue, Suite One, Palo Alto, CA 94301

Phone Orders: (415) 321-3358

Circle 395 on reader service card

When Your Macintosh  
Needs an Upgrade,  
the Number to Call is:  
**(818) 407-0571**

*micrographic*  
**I M A G E S**

*The Single Source for All  
Your Macintosh Upgrade Needs.*

*MegaMac*™ **SX**

Fully integrated 20-mbyte internal hard disk plus 1-mbyte of RAM, complete with RamDisk software.

**\$2195.00**

*MegaMac*™ **I**

1-mbyte of RAM, and SCSI port with a Co-Processor port give you flexibility as well as value.

**\$595.00**



**MegaMath I**

1 mbyte of memory with a 68881 math Co-Processor. The utmost in speed!

**\$1495.00**



External video output card will drive monitors and video projectors.

**\$149.50**

**Integrated. Compatible. Upgradeable.**

MegaMac is a trademark of MicroGraphic Images. Macintosh is a trademark of Apple Computer.

Dealer Inquiries Invited.

Circle 235 on reader service card



(continued from page 125)

**MacSpell +**, from Creighton Development, is one of several Macintosh spelling checkers designed to relieve writers of such burdens. *MacSpell +* combines a 75,000-word dictionary, a thesaurus, and a word-hyphenation feature to create a spelling checker desk accessory that works with either *MacWrite* or *Microsoft Word*. Because the dictionary takes up a good deal of memory, you need a 512K Mac and an external drive to use *MacSpell +*.

## Seek and Destroy

Installing *MacSpell +* is straightforward, requiring only a few minutes for even the most inexperienced Macintosh user. Once the desk accessory is installed and you are ready to check a document, select *MacSpell +* from the Apple menu, click the dictionary, and begin the search for words gone astray. To correct misspelled words, you choose Spell Check Document from the *MacSpell +* dialog box. The program reviews your document word by word, stopping when a word doesn't match any of those in its dictionary. When a mismatch is found, the renegade word is displayed both singly and in context. A list of possible spellings, if any can be identified, is also displayed in the dialog box.

If you see the word you want in the list of suggestions, you click on the correct version, and *MacSpell +* inserts it into the text. If the program doesn't display the correct spelling, you can correct the misspelling by retyping the word and clicking Accept. If the suspect word is not misspelled, you can add the word to a 2500-word custom dictionary or ignore the word and continue with the spell-checking process. If you enter a corrected spelling, *MacSpell +* backtracks several words so the word you entered can again be checked. This feature prevents you from misspelling a would-be correction.

## Putting It Another Way

In addition to a dictionary, *MacSpell +* offers a thesaurus and a word-hyphenation feature. When you highlight a word in a document, the program displays a hyphenated version of the word. In addition, a list of synonyms appears if the program includes any. To hyphenate a word, click the spot where you want to break the

word, and the hyphenated word is inserted into the text. If *MacSpell +* provides synonyms, you can replace the selected word by clicking the alternative you prefer.

While *MacSpell +* is easy to use, a couple of tips recommended by the program's concise and informative documentation will spare you frustration. First, the program's dictionary is massive, occupying 365K—almost an entire Macintosh disk. If you store your document on a separate disk from the word processor, the spelling check will be accompanied by a mad flurry of disk exchanges. Instead, place the document on your word processor or dictionary disk for the spelling check and transfer it later to another disk for storage.

The second tip concerns the way *MacSpell +* reads a document. *MacSpell +* can only read what it "sees" on the screen. So when reviewing a document with margins wider than the screen display, *MacSpell +* may identify misspellings based only on the text that appears on the screen. For example, *external drive* may be identified as the misspelled word *extedrive* (see "Strange New Words"). When first encountered, this characteristic is somewhat confounding. However, since the correct text is displayed in context at the top of the *MacSpell +* window, you can overcome the problem easily by clicking Ignore.

## A Sight for Sore Eyes

All in all, *MacSpell +* does as good a job as most spelling checkers, offering the correct spelling often enough to make it helpful. At the very least, it identifies errors that might otherwise go unnoticed, so you can correct them before someone else does notice. The 75,000-word dictionary catches most common spelling errors, and the 2500-word custom dictionary is large

enough to handle most needs. If you desire more words or more than one custom dictionary, you can make copies of the dictionary disk.

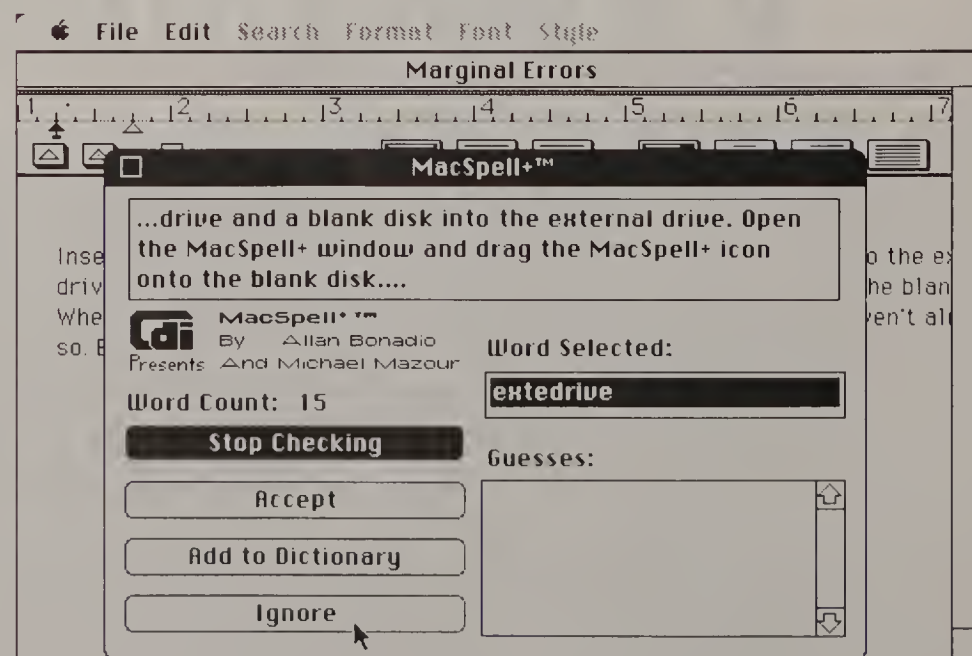
The thesaurus is handy but somewhat limited, since synonyms are defined for only a select group of words. The thesaurus's cross-definition of words is also a bit mystifying. For example, given *unhappy*, *MacSpell +* offers *dolorous* and *sad*. However, in response to the word *sad* it offers *sorrowful* and *gloomy* as acceptable synonyms.

In addition, I encountered a few glitches in the spelling-checker portion of the program. For example, *MacSpell +* recognizes fairly esoteric words like *picklock* and *tapir* but flagged the word *won't*. Also, it suggested I replace *preparation* with *prepartion*. (I declined.) These are small complaints, however, about a generally well constructed program.

My only real complaint about *MacSpell +* is that you must sit patiently by, making individual corrections while the program reviews a document. I much prefer a system that reviews an entire document and allows errors to be cleaned up all at once. But if you don't mind watching while the program checks every word, *MacSpell +* is a welcome sight for eyes made sore by endless hours of proofreading. —Walter C. Burns

*MacSpell +*  
Creighton Development, Inc.  
16 Hughes St. # C/106  
Irvine, CA 92718  
714/472-0488  
List price: \$99

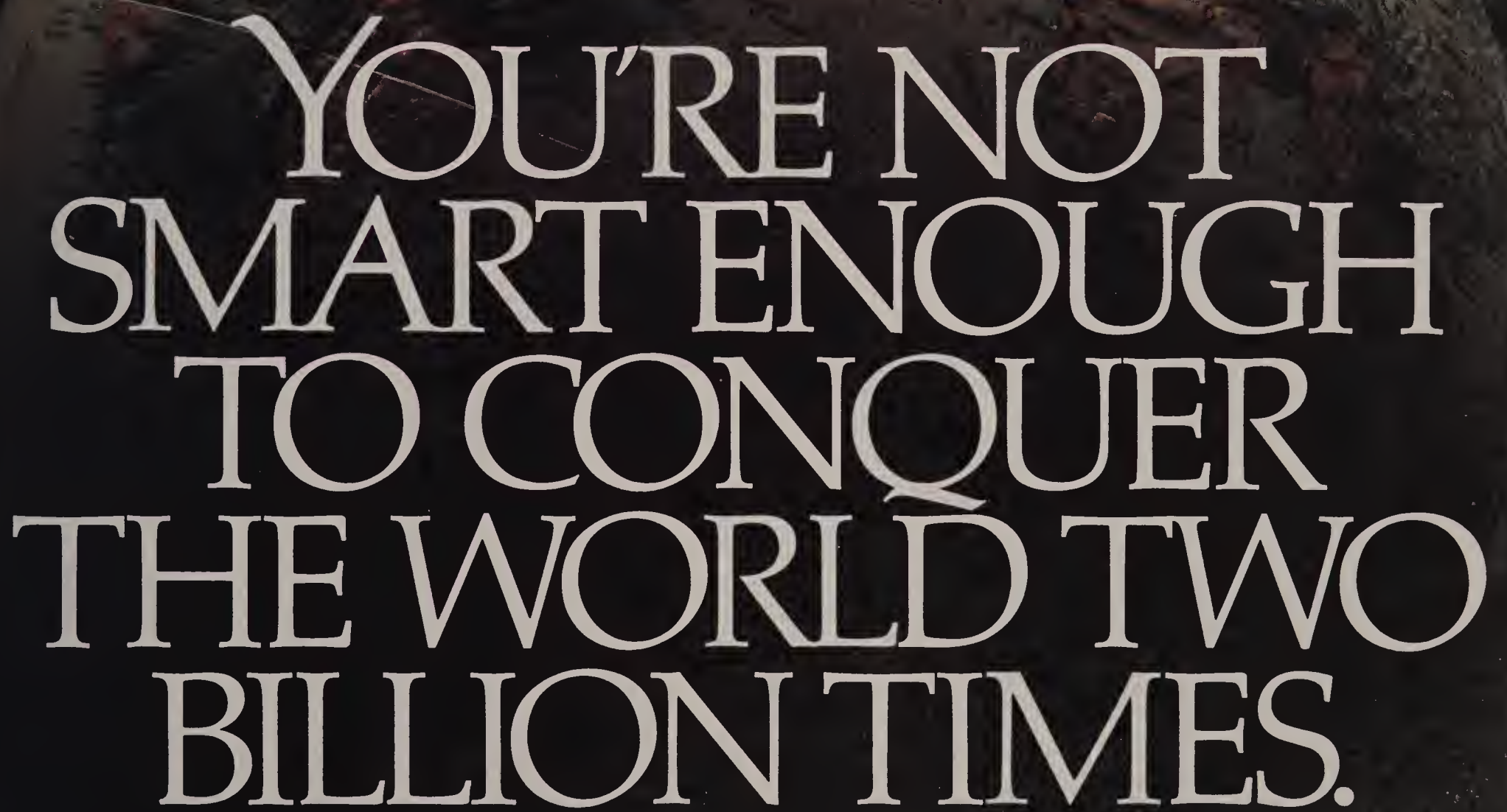
(continues on page 132)



## Strange New Words

One of *MacSpell +*'s quirks is the tendency to contract words when margins are too wide for the screen display. However, you can easily verify correct spellings because the words appear in context at the top of the *MacSpell +* window.





# YOU'RE NOT SMART ENOUGH TO CONQUER THE WORLD TWO BILLION TIMES.

Introducing STRATEGIC CONQUEST, at last. This is the first wargame available for your Macintosh computer. And it's about as intense and intricate a war-game as you can find to play on *any* computer.

Consider for openers, STRATEGIC CONQUEST has more than two *billion*

possible world maps. That's 2,000,000,000. It also has 15 levels of difficulty and eight types of tactical weapons that include submarines, battleships, bombers, destroyers, fighter jets and armies.

It isn't unusual to sweat while plotting to take total control of the world. Nor

is it out of the ordinary to go six grueling hours before completing a single game. Or eight hours. Or ten.

STRATEGIC CONQUEST is a mind buster. Primarily because you're battling a program that borders on artificial intelligence.

You may be smart and imaginative and persevering

enough to dominate the world once, ten times, a hundred, a thousand. But sooner or later, your intellect will crack. It happens to all of us.

No shame, no blame.

**PBI Software**  
A SUBSIDIARY OF ITAT INC

1111 Triton Drive, 2nd Floor,  
Foster City, CA 94404 (415) 349-8765

STRATEGIC CONQUEST \$49.95. TO FIND OUT MORE ABOUT STRATEGIC CONQUEST SEE YOUR LOCAL COMPUTER SOFTWARE DEALER OR ORDER DIRECTLY FROM US BY CALLING 800-843-5722; OR IN CALIFORNIA, CALL 800-572-2746 9AM-5PM PST.

STRATEGIC CONQUEST, A TRADEMARK OF PBI SOFTWARE, IS WRITTEN BY PETER MERRILL. MACINTOSH IS A TRADEMARK LICENSED TO APPLE COMPUTER, INC

Circle 233 on reader service card



(continued from page 130)

## A Matter of Taste

Remember "home computers"? When personal computers were introduced, the media predicted that computers would become indispensable members of every household. Soon, we were told, the boredom of routine domestic tasks would be replaced by wondrous programs that would balance your checkbook and file your recipes. A few years have passed, and while there is no shortage of personal accounting programs, other home applications for the Macintosh have been slow to arrive. To fill that gap, Rubicon Publishing has released a Macintosh version of household drudgery simplified, kitchen division.

**Dinner at Eight**, a two-disk electronic cookbook, offers recipes from famous American restaurants along with serving suggestions and wine recommendations. Because the program is, at heart, a

database, you can select recipes by category; adjust quantities for the number of servings; print recipes, menus, and shopping lists; and add your own recipes.

### From Brie Soup to Crispy Walnuts

The program is aimed at a Yupscale audience. You won't find a single recipe featuring leftover chicken or canned tuna. But you will find Noisettes of Red Deer (you may substitute antelope), Halibut and Salmon Galantine with Spicy Peanut Sauce, and four recipes for oysters. A menu of Steamed Chicken Breasts Stuffed with Mushrooms (rolled, sliced, and served on a puree of broccoli), wild rice, and Poached Oranges with Anise looked as good as it tasted. Pumpkin Cheesecake received raves from all who tried it, and Honey Pecan Fried Chicken is so delicious it is now a staple in my kitchen.

(continues on page 134)



# SONY

## 3½" SS DISKS

Boxed in tens.

30+	50+	100+
<b>\$1.79</b>	<b>\$1.75</b>	<b>\$1.73</b>
each	each	each

Packaged in 50's

50+	100+
<b>\$1.64</b>	<b>\$1.59</b>
each	each

## 3½" DS DISKS

30+	50+	100+
<b>\$2.94</b>	<b>\$2.89</b>	<b>\$2.85</b>
each	each	each

# Nashua

Boxed in tens with Nashua's limited lifetime warranty.

## 3½" SS DISKS

30+	50+	100+
<b>\$1.69</b>	<b>\$1.64</b>	<b>\$1.57</b>
each	each	each

RIBBONS	STORAGE
<p><small>Sold in sixes, price each.</small></p> <p>Epson MX-70/80 .... 2.59</p> <p>Epson MX-100 ..... 3.99</p> <p>Epson LQ 1500 ..... 4.99</p> <p>Epson LX80 ..... 4.99</p> <p>Okidata Micro 801/82A/83A/92/92 .... 1.29</p> <p>Okidata 192/182 .... 5.99</p> <p>Okidata Micro 84/94 ..... 2.90</p> <p>Diablo Hytype 11 .... 3.19</p> <p>C. Itoh Prowriter .... 3.69</p> <p><b>APPLE IMAGEWRITER,</b></p> <p>Black ..... 3.45</p> <p>Color 6-Pack ..... 4.75</p>	<p><b>ROLLTOP FILES</b></p> <p>3½" model holds 55 ..... <b>17.49</b> (Retail Value \$24.95)</p> <p>5¼" model holds 120 ... <b>24.99</b> (Retail Value \$36.00)</p>

**CALL 1 800 USA-FLEX**

**TOLL FREE**

In Illinois 1 800 FOR-FLEX

7 to 7 Central Time 10 to 3 Saturdays

Shipping/handling additional. Minimum order \$50.00. Visa, MasterCard and Prepaid orders accepted. Corporations rated 3A2 or better and government accounts are accepted on a net 30 basis. C.O.D. orders add an additional \$5.00 special handling charge. APO, FPO, AK, HI & PR orders add an additional 5% to the total order amount to cover PAL and insurance. No sales tax outside of Illinois.

**USA FLEX**

135 N. Brandon Drive Glendale Heights, IL 60139

Circle 134 on reader service card

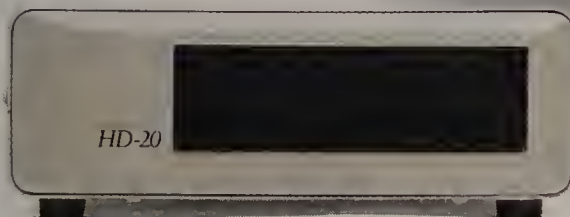


We're in business with Macintosh Plus. 

# HOW TO ADD INCREDIBLE SPEED AND STORAGE TO THE MACINTOSH PLUS

Introducing  
HD-20™ and  
HD-30™

The 30 megabyte and  
20 megabyte Hard Disk  
Drives for Macintosh Plus



Adding storage and speed to a Macintosh Plus is easy. Place the HD-20 or HD-30 under your Macintosh and save desk space. Connect the drive to the SCSI expansion port and you can transfer data 16 times faster than many current hard disks.

Turn it on and it automatically boots up. The HD-20 and HD-30 both support Apple's new Hierarchical File System, and they are expandable to add more memory devices or tape backup units.

See MDIdeas' HD-20 and HD-30 at your authorized Apple Dealer and be sure to ask about Apple's "We're in Business with Macintosh Plus" promotion.



HD-20-\$1095 HD-30-\$1595

**MDIdeas, Inc.**

1111 Triton Drive, #205  
Foster City, CA 94404  
(415) 573-0580

HD-20, HD-30, and MDIdeas are trademarks of MDIdeas, Inc. Apple Macintosh, Macintosh Plus and "We're in Business with Macintosh Plus" are trademarks of Apple Computer, Inc.

**Circle 467 on reader service card**



# **SONY 3.5" DISKETTES AT THE LOWEST POSSIBLE PRICES!**

Don't take chances with your Mac.

Use the diskettes it was designed around: genuine SONY 3.5" diskettes.

**LIFETIME WARRANTY!  
AND LOWER PRICES  
THAN EVER...**

**SONY BY THE BOX:  
3.5"SSDD**

Qty. 20 - 40: Qty 50+:  
Boxed in 10's \$ 1.85 ea \$ 1.81 ea.

SONY IN BULK:  
(3.5"SSDD in boxes of 50.)

Boxed in 50's \$ 1.61 ea.

## **THE FREEBIE!**

Everybody seems to be giving something away to sell SONY diskettes, so we'll jump in as well.

Order 50 or more SONY 3.5" diskettes and we'll include FREE, a plastic storage case that holds 36 of the little critters.

## **TO ORDER:**

Ordering is simple: just call us TOLL-FREE at **1-800-621-6827**. (In Illinois, call **1-312-256-7140**.)

We accept VISA, MASTERCARD and C.O.D. orders. Corporations rated 3A2, governmental and quasi-governmental agencies may order on open account.

**DISK  
WORLD, Inc.**

629 Greenbay Road  
Wilmette IL 60091

(continued from page 132)

With 152 recipes in the 1986 edition, *Dinner at Eight* has more than enough entrées, desserts, salads, soups, and appetizers to serve you well for months. But 152 recipes, good as they are, fall quite a bit short of the advertised "hundreds of dishes." In fact, *Dinner at Eight* falls short of its claims in many respects.

## **No Thanks, I'm Just Looking**

The program gives you three pictorial Browse screens that you can use to look for a recipe (see "Clicking for Cuisine"). The first screen presents a number of general categories such as soups, salads, desserts, poultry, and hors d'oeuvres. The second Browse screen lets you pick the type of meal you're planning, from dinner parties to gourmet fast food, and the third screen is divided into regional specialties: Far Eastern, Italian, Mexican, and so on. You can open up to three categories at the same time, one from each of the Browse screens. For example, you can request all the recipes that satisfy the restrictive niche Beef/Intimate Dinners/French. Your request won't be granted in this case, though. Even natural two-item sorts such as Intimate Dinners/French and Italian/Dinner Parties come up empty.

When you do hit on a winning combination, such as Poultry/Far Eastern, a list of appropriate recipes is displayed. Click on the recipe you want to examine and the

recipe Summary screen appears. The Summary screen displays the 27 recipe categories from the Browse windows. You can re-categorize a recipe by clicking on a button, instantly putting the recipe into as many categories as you want. The Summary screen also shows the name of the dish, the preparation time, the original serving size, the name of the originating restaurant, and, in some cases, the name of the chef who created the dish.

At the bottom of the screen are title bars for the Ingredients, Directions, and Serving Suggestions windows. The windows look like file cards, and your selection pops to the front of the stack when you click it.

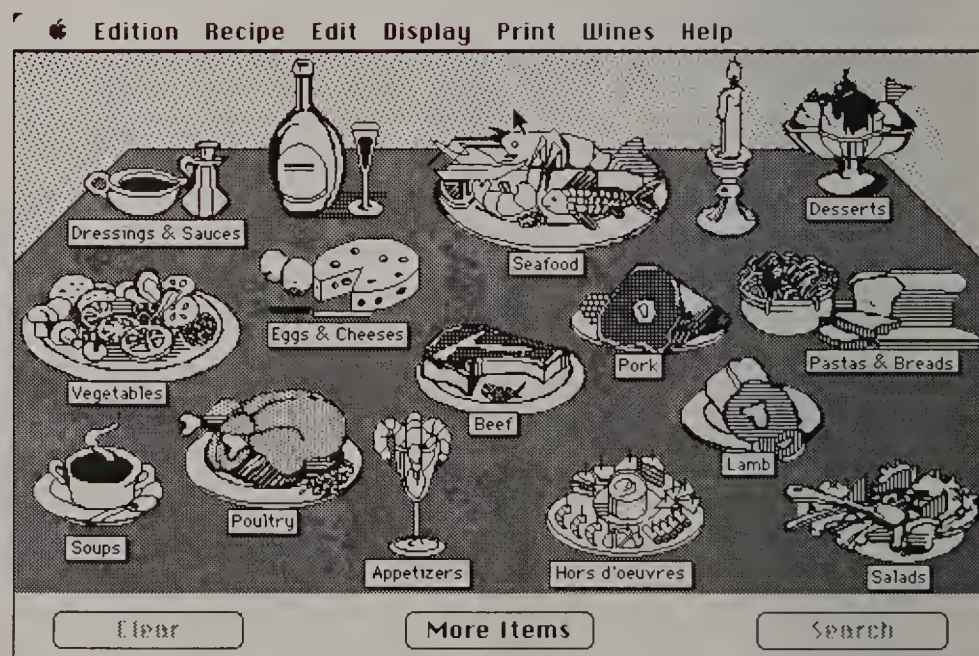
## **Molehills out of Mountains**

You can scale a recipe for any number of servings from 1 to 99. Regardless of the serving size for the chef's original recipe, the default serving size is 4, and scaling is strictly a mathematical process. Some of the ingredients for Cream of Artichoke Soup, which served 10 in the original recipe, look silly when scaled for four:  $1\frac{3}{16}$  cup onions,  $4\frac{13}{16}$  ounces hazelnuts, and an impossible  $1\frac{3}{16}$  bay leaf. The scaling algorithm frustrates any attempts at reasonable scaling. A recipe that calls for 1 cup of an ingredient for 6 servings calls for  $\frac{2}{3}$  cup for 4 servings but  $2\frac{2}{3}$  ounces for 2 servings.

(continues on page 136)

## **Clicking for Cuisine**

Three pictorial Browse screens allow you to search selectively by category. You can search for up to three categories at one time.





# APPLICATIONS *international, inc.*

## PRESENTS:

New ways to improve the  
business performance  
of your Macintosh. <sup>TM</sup>

With every purchase of  
\$100.00 or more, you become eligible  
to win one of the following prizes:

- ☐ 1986 Corvette
- ☐ Round trip airfare for two ANYWHERE in the world with hotel accommodations (13 nights) and \$1,000.00 in CASH.
- ☐ Round trip airfare for two ANYWHERE in the U.S. with hotel accommodations (6 nights) and \$600.00 in CASH.
- ☐ 21" Color T.V.
- ☐ Huffy Ten Speed Bicycle
- ☐ Polaroid Instamatic Camera
- ☐ Sony Walkman

### JOB COSTING

#### Hard Disk ONLY.

This complete application provides a facility for tracking labor and materials cost as applied to jobs or projects. Full reporting with comprehensive audits and trial billings, and graphics of job status.

\$149.95

### ORDER ENTRY/INVENTORY

Ideal for the small distributor who needs better inventory control, as well as control over customer accounts and order processing. A full set of reports and sales histories included, along with point of sale inventory updating.

\$79.95

### SALES/LEAD TRACK

An efficient tool for the salesperson who wants to manage repetitive account activity as well as accounts with multiple contacts and locations. System will track & list follow-ups, comes with a comprehensive set of reports including mailing labels.

\$79.95

### MacLion MAIL MANAGER

Handy for anyone who needs to produce labels or combine information from a database with text or form letters.

Bonus to MacLion users: this system can be loaded directly into your already created database!

\$29.95

128 or 512k

### TIME & BILLING

If your business is based on billing for time spent, here's a great way to save some. Records activities and charges for clients and multiple projects per client. Produces a full set of reports, including client and project histories, and statements.

\$79.95

### MacLion

The most powerful TRUE Relational DBMS for the Macintosh. Complete system includes full featured procedural language with compiler for fast operation, tremendous flexibility, and power. Up to 58 files can be created, with up to 14 open at one time.

\$99.95

128 or 512k

### POINT OF SALE

A responsive system for the small retailer who needs better control of sales and inventory on hand. Includes on-line inventory updating at time of sale, with multiple payment types, and quick invoicing. Full set of comprehensive sales reports are included with system.

\$79.95

### MacLion RUNTIME

Developer's System

### LEO TOOLS DISK

A disk-full of useful LEO words

### MacLion TEKPAK

A collection of the most requested MacLion functions

CALL

## SPECIAL DISCOUNTS

BUSINESS SOFTWARE  
AT PRICES LOWER  
THAN GAMES!!

Call Now To  
Order and WIN!!

ALL REQUIRE 512K AND  
2 DRIVES, except where noted.

117 Wilmington/W. Chester Pike - Glen Mills, PA 19342 - (215) 358-0573

Circle 464 on reader service card



ANNOUNCING THE FIRST OF THE



APPLICATION  
SOFTWARE SERIES

# EXECUTIVE OFFICE™

## THE COMPLETE INTEGRATED MANAGEMENT SYSTEM

DEMO DISK PLUS  
CASSETTE \$6.95



**"THE CHOICE IS NO LONGER JUST "JAZZ" OR "EXCEL"  
THERE'S NOW A NEW BLUEPRINT FOR SUCCESS"**

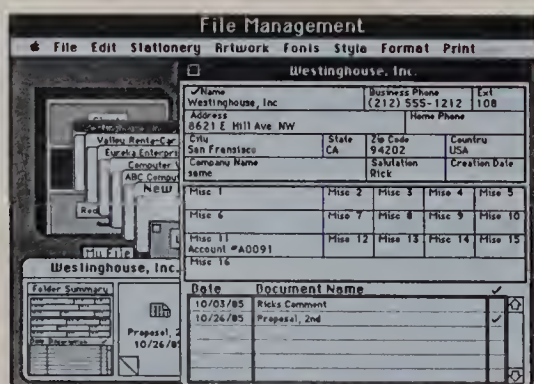
Beyond Apple: At long last an executive office management system which surpasses the most sophisticated user needs has arrived.

After surveying over 10,000 Mac Users-both experienced and new-DataPak Software has been able to determine exactly what the discriminating Mac User really needs and wants. The result is "Executive Office."

This lightning-fast, ultra powerful, fully-integrated executive office management program not only meets all the user criteria, but is by far, the easiest business software to understand and use in existence.

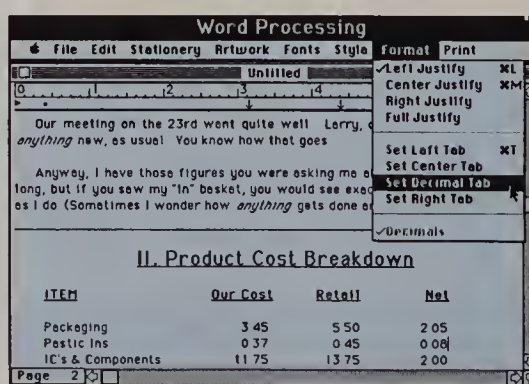
This combination of practically unlimited potential coupled with ease of use takes the concept of Macintosh™ to a point which can only be termed "Beyond Apple" ... for only **\$349<sup>99</sup>**

### File Management



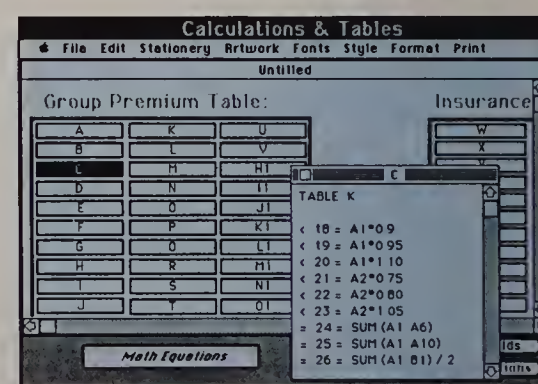
Real life metaphore file management system is backed up by practically unlimited searching, listing, and report generation capability.

### Word Processing



Full word processing allows comprehensive document preparation within the integrated program, including fully-justified, two column newsletter printing, paragraph formatting, and multiple document viewing.

### Calculations & Tables



Expandable "Magic Math" windows allow inclusion of unlimited math calculations, full tax tables, insurance tables, alphanumeric inventory lists, payroll, etc.



**DATAPAK  
SOFTWARE** INC.

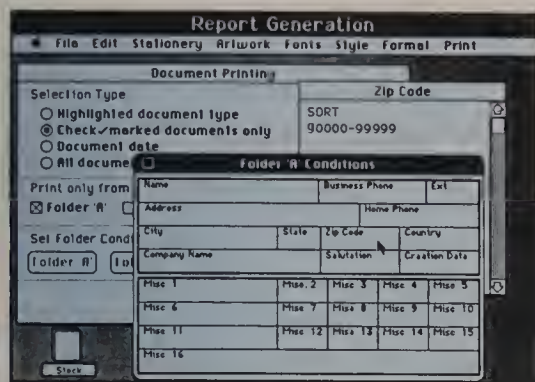
14011 VENTURA BLVD., SUITE 402, SHERMAN OAKS, CA 91423 • (818) 905-6419

Circle 159 on reader service card



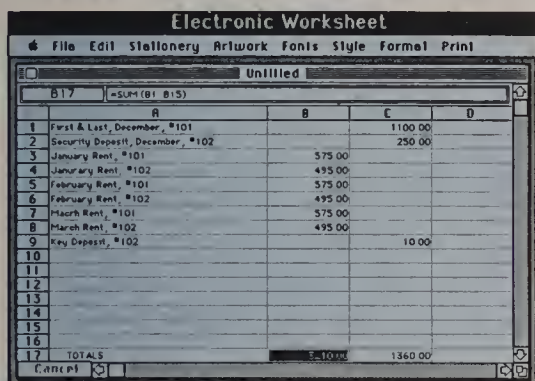
(continued from page 134)

## Report Generation



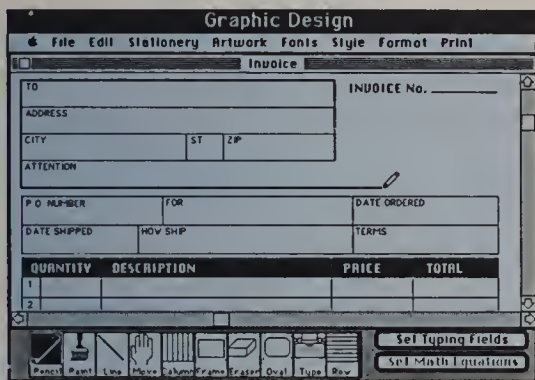
Save simple or complex report formats for instant retrieval and use.

## Electronic Worksheet



Use for calculation of profit projections and other electronic worksheet needs.

## Graphics Design



Integrated graphics makes custom form generation, etc., easy and fast.

## Mail Merge



Fully integrated printing for form letters, mailing labels, and other office needs.

## "Toss Cook to Brown"

The program's ingredient lists and cooking directions are beset with omissions, confusion, bad grammar, and an occasional howler. A recipe for Lamb Kabuli never tells you when to put in the lamb. The directions for Pumpkin Cheesecake ask you to add flour, but no flour is mentioned in the list of ingredients, and sugar is called for twice. The recipe for Chicken Kiev with Smitane Sauce advises, "The secret of this is making sure the breasts of chicken do not ooze of seasoning within," and, "pat the chicken very harsh." Several recipes refer you to other recipes on the disk, such as fish stock and brown veal stock, that are just not there. In the instructions for Kan's Lamb you are directed to "Toss cook to brown. . . ." Not recommended if the cook is Paul Prudhomme.

The Serving Suggestions are, in most cases, simply 50 to 60 words about the restaurant of origin and a wine recommendation. Once in a while there is an actual serving suggestion, usually a recommended vegetable or starch. Editing errors crop up here as well. The wine suggested to accompany Warm Chicken Salad is "Chateau Blanc." Chenin Blanc? Château (something deleted) Blanc?

Other touted program features work less well than I expected. You can make up a menu and print it, but you can't edit it. So if you are serving wild rice (as suggested with the Steamed Chicken Breasts), the menu won't list it unless you go to the trouble of entering a recipe for it.

The shopping list is another good idea, but it also has flaws. The list automatically totals the amounts for the same ingredient from different recipes, saving you the trouble of adding up ingredient amounts for a given menu. But if a recipe calls for an unspecified quantity of something, such as "sufficient oil for deep fat frying" or "a small amount of julienned carrots," the ingredient won't be listed on the shopping list. The shopping list, like the menu, can't be edited.

## A Modest Proposal

A representative of Rubicon Publishing said that *Dinner at Eight* is being revised to fix many of the grammatical flaws and omissions of ingredients I've mentioned. But based on the version I saw, I would like to make a modest (although heretical) proposal: invest the \$49.95 in a gourmet cook-

book, a file box, and a supply of index cards. With the money left over you can buy a case of Chateau Blanc. Bon Appétit!—Carol Johnson

*Dinner at Eight*  
Rubicon Publishing  
6300 La Calma Dr. #100  
Austin, TX 78752  
512/454-5004  
List price: \$49.95

## Desk on a Disk

Getting organized isn't as easy as it used to be. These days you must choose among at least a dozen Macintosh desk organizers—programs that include calendars, appointment books, address lists, and the like.

**MegaDesk**, from Megahaus, doesn't have a flock of desk accessories as do some other desk organizers, but what it lacks in variety it makes up for in functionality.

*MegaDesk* is composed of two accessories, Appointment Book and Card File, and Transfer, a utility that lets you move from one application to another without returning to the Finder. The Appointment Book and Card File accessories are copy protected in a way that allows you to copy them onto no more than six work disks.

## Pick Six

*MegaDesk's* installer program is unique in that it lets you remove an installed *MegaDesk* accessory from a disk and then place it on another disk. The installer keeps an accounting of the outstanding accessories, so you can never have more than six copies of the *MegaDesk* accessories on your disks at one time. If you copy an entire disk, the *MegaDesk* accessories will no longer function properly; instead, you'll have a demonstration version to play with. The same thing happens when you try to copy the accessories using Apple's *Font/DA Mover*.

While I don't blame Megahaus for protecting its software against piracy, I feel that restricting the copying of desk accessories negates their purpose: to be available any time you need help, from within any program. To get the most use

(continues on page 138)





(continued from page 136)

out of desk accessories, you should be able to copy them to any of your work disks. *MegaDesk's* design is best suited to hard disk owners, who won't need to worry about which disks contain the *MegaDesk* accessories.

## No Disappointment

*MegaDesk's* main accessory, the Appointment Book, has the look and feel of a real desk calendar/diary. It's the best Macintosh scheduler I've seen. The Appointment Book opens on the current day. To switch to another day, click one of the dog-ears; the left dog-ear moves you back a day, the right moves you forward. You can also go to a specific day of the month by clicking its number on the calendar. When you need to, you can easily go back and forth a month or year at a time by clicking in the date box below the calendar.

The schedule on the left side of the display lists appointments for each hour of the day, from 7 a.m. to 5 p.m., with an extra

slot for things to do at night. You can write a short note directly on the schedule line or type a more verbose one in the Note Pad, which provides an unlimited number of pages for each hour on the schedule. A dotted box in the Note Pad window represents the text that goes on the schedule for that hour. If you want to see the schedule for the whole week, click the Week button.

The Appointment Book has its own multiple-alarm feature. You can turn on an alarm for each of up to eight notes you write in the Note Pad. The alarm chimes, no matter what program you're in, as long as the Macintosh is turned on and the Appointment Book accessory is installed on the disk.

The Appointment Book also lets you search for text and purge old appointments. Purged appointments are saved in a file, which you can keep for your records or throw away. The Appointment Book doesn't have a print feature of its own, but *MegaDesk* does have a print utility. The utility prints all the appointment notes in the file, or it lets you print selected portions, such as appointments that fall in a certain week or contain a specific text string like "Lunch with Boss."

## File and Remember

*MegaDesk's* Card File resembles the Macintosh's Scrapbook in that it lets you keep clippings of text and pictures. But unlike the Scrapbook, the Card File enables you to categorize clippings and choose among them from a main index. After you choose a topic, you can flip through the entries you've filed. When you open the Card File, a dialog box lists all the card files you've created. Choose one and an index box appears that lists all the cards in the file. You then choose a card to view, create a new card, or delete an old one.

If the card holds text, scroll bars appear so you can scroll the document to read it. You can edit the text in the card and copy text or pictures to the Clipboard for use in another application. You can also copy text or graphics from an application to a card via the Clipboard.

The files the Card File creates can be large, especially if they hold graphics. One file of *MacPaint* images, for instance, can easily take up 200K. Fortunately, the Card

(continues on page 140)

# GET THE PROTECTION YOU NEED the BEST protection... MACBCOOL.

MACBCOOL helps protect you from unexpected down time by warding off two of your Mac's worst enemies...

**MACBCOOL™**  
for your Macintosh™



MACBCOOL is a trademark of MPH Electronics, Inc.

Cooling is essential for optimum Mac operation...Slipping your Mac into a snug shelf space may look good, but the heat build-up can be disastrous. Operating your Mac with the lower vents partially blocked can be damaging too. And, those powerful memory add-ons increase your cooling needs.

**MACBCOOL cools your Mac better!!** MACBCOOL's whisper quiet fan changes the air inside your Mac nearly 20 times a minute...plenty of cooling for every Mac user's needs.

**MACBCOOL's surge energy protection conditions your Mac's power to save you headaches.** Damage causing power line surges can come from many sources. With MACBCOOL your Mac is protected from nearly every kind of power line disturbance including a nearby lightning strike! It's the only surge protection you need!

**MACBCOOL adds more convenience too!** Easy to reach, front mounted control switches power up your Mac and peripherals by touching the lighted switches. MACBCOOL's few installation steps are quick and simple. And, a sturdy carry handle locks it firmly into place for full Mac portability.

Sig: MPH Computer Products, Number "1" in Macintosh cooling.

To order or request additional information, see your local dealer, or call us today: (800) 231-2401; Inside California (818) 442-7829.

We accept Visa, MasterCard, or personal checks.

Circle 291 on reader service card

MPH COMPUTER PRODUCTS



Macintosh is a trademark licensed to Apple Computer, Inc.



# IT'S SIMPLE TO SAMPLE

## ONE-WRITE ACCOUNTING ON THE MAC

For only \$19.95, you can sample a full working copy\* of Plains & Simple,™ from Great Plains Software. Within minutes you'll see how easy it is to computerize your accounting.

If you already use a one-write or pegboard accounting system, then you already know how to use Plains & Simple. Our program is customized for over 25 different kinds of businesses, from services to real estate, and from doctors' offices to hotel management.

Just call us at 1-800-345-3276 to order your full working sample of Plains & Simple. You'll also receive a coupon worth \$25 of free computer business forms, good if you purchase the actual Plains & Simple program before April 15th, 1986.

Now it's simple to be in business with the Mac.

\*Includes complete general ledger, accounts receivable and accounts payable limited by number of transactions only.



**GREAT PLAINS  
SOFTWARE®**

GROW YOUR BUSINESS ON GREAT PLAINS™

© 1986 GREAT PLAINS SOFTWARE, INC.

Circle 473 on reader service card



## IBM, VAX... Users!

TEK 4014  
VT 100  
TEK 4010  
TEK 4006  
TEK 4105  
VT 640

spoken  
here!



**Tekalike** lets you use your Macintosh as a graphic terminal with mainframe applications from Issco Graphics, Molecular Design, Chemical Abstracts Service, Precision Visuals, SAS Institute... and take the IBM, VAX, etc. mainframe graphic to the Macintosh for editing and page composition.

Save documents for MacDraw, MacPaint and Pagemaker.

High quality output via the LaserWriter, the Imagewriter, or plotters.

Price: \$250

### Other Mesa Products

**Plot-It...** plots MacPaint documents on Apple, Hewlett-Packard, and Houston Instruments color plotters

Use your MacPaint pictures to create color transparencies for presentations.

Price: \$95

**Mesa Graphics**  
P.O. Box 600  
Los Alamos, NM  
87544 (USA)  
(505) 672-1998  
Telex II: 5101003099

Circle 97 on reader service card

## Macware Reviews

(continued from page 138)

**File** lets you keep files on other disks. You can dedicate a work disk to Card File documents.

As with the Appointment Book, you can print any card in the Card File using the *MegaDesk* print utility. You can't select individual cards to print, but you can select a range of titles to print. You can also specify that you want to print all the cards, those that contain just text, or those that contain just pictures.

*MegaDesk* is perhaps the most elegant desk organizer available, although it is certainly not the cheapest at \$125. Since the *MegaDesk* accessories are large, they need a 512K Mac for proper and carefree operation. But each accessory is packed with features and takes the place of three or four lesser accessories. To my mind, *MegaDesk*'s only serious limitation is its copy-protection scheme. — *Gordon McComb*

*MegaDesk*  
*Megabaus Corporation*  
5703 Oberlin Dr.  
San Diego, CA 92121  
619/450-1230  
List price: \$125

## Take Me out to the Ball Game

Baseball season is almost here. While you're waiting for opening day, you might want to fill the void in your sports life with Gamestar's **Championship Star League Baseball**, the closest thing to real baseball the Macintosh can offer.

*Star League* is a realistic baseball simulation game that allows players to swing the bat, throw a variety of pitches, and field the ball (see "A New Ball Game"). Runners can lead off, steal a base, or stretch a base hit into a double. On defense, players must field ground balls and flies and choose which base to throw to. There will be some frustrating slugfests while you're learning how to control the mouse for pitching and fielding the electronic baseball. But as you become more adept at scooping up a grounder or fooling an opposing batter with a slow curve, you'll begin to feel like an all-star.

(continues on page 142)





# MacPower!



## For your printers.

SoftStyle® software drives the most popular printers and plotters to new heights without driving your MacCrazy.



### PRINTWORKS™

Put more power into your ImageWriter with Printworks for Mac. Print while you continue to work. Combine the printer's Near Letter Quality text and image graphics on the same page. Do automatic color charting on the ImageWriter II. Turn high speed draft text into NLQ at a touch. Printworks is loaded with powerful features. Retail \$75.



### PLOTSTART™

Use the high performance plotter driver software that allows high quality color plotting direct from drawing, drafting and charting applications. Drive Hewlett Packard's new ColorPro™, the 7475A and 7550A plotters. Plot from your applications as easily as you print from them. Supported applications include MacDraw, Jazz, Microsoft Chart & Excel. Retail \$125 with cable.



### COLORMATE™


Now you can do full color printing from the Macintosh with your ImageWriter II and Colormate software. Colormate directly opens a full-size MacPaint document, colors it and prints in one pass in stunning color. Also color anything passed through the Clipboard. It's a new dimension in Mac Graphics! Retail \$95.

Discover Colormate Art™, over 100 colored images ready to use with Colormate. Retail \$45.



### START™ FAMILY

SoftStyle's Start products let your Mac drive HP's LaserJet & ThinkJet, Epson, Toshiba, and TI printers with complete text and graphics. Our new 3.0 versions add even more powerful features. They allow Choose Printer, Print Adjustment, and your printer's NLQ text to combine with image graphics on the same page. Start drivers are transparent to your Mac application programs and fully compatible. Retail from \$45 to \$95.

*Solve it with*  **SoftStyle®** *Solutions*

SoftStyle, Inc., 7192 Kalanianaʻole Hwy, Suite 205, Honolulu, Hawaii 96825 Toll Free (800) 367-5600.

Printworks, Plotstart, Laserstart & SoftStyle® trademarks of SoftStyle, Inc., Macintosh is a trademark licensed to Apple Computer, Inc., ImageWriter, MacPaint & MacDraw trademarks of Apple Computer, Inc., Colormate trademark licensed from NEC Corporation. LaserJet & ThinkJet trademarks of Hewlett Packard, Inc., Microsoft Chart and Excel trademarks of Microsoft Corporation, Jazz a trademark of Lotus Development Corp., Epson a trademark of Epson Corp., Toshiba a trademark of Toshiba Inc., TI a trademark of Texas Instruments, Inc. MC and Visa accepted. Add \$3.00 shipping and handling charge for direct orders (\$10.00 for foreign).

**SEE YOUR FAVORITE SOFTWARE DEALER OR ORDER DIRECT!**

Circle 343 on reader service card



(continued from page 140)

### Play Ball!

Before stepping up to bat, you'll have to suffer through some obnoxious music while the game loads and pregame selections are made. You must first choose between batting practice and a real game and then decide whether to play against the computer or another player. You then select one of two pitchers: Curves Cassidy, master of the curve and sinker, or Heat Muldoon, whose fast ball and slider are legendary. At the same time as the pitching choices appear on the screen, you must decide on a lineup, selecting sluggers or line-drive hitters for each position. After you make the selections, a lineup card appears on the screen.

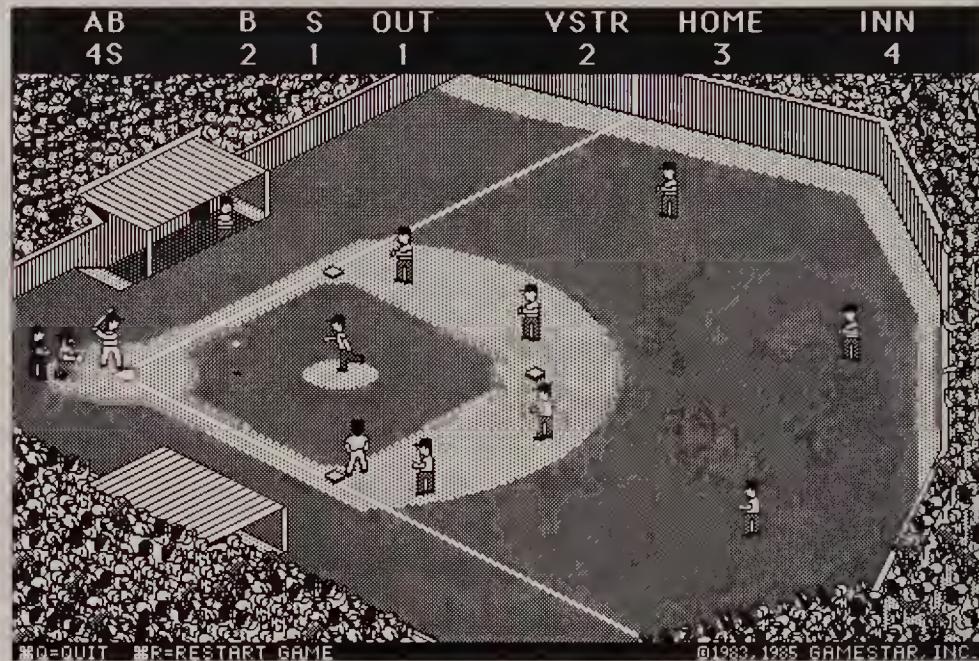
### Pitching and Batting

In real baseball a good pitcher has a wide repertoire of pitches and a good batter anticipates what might come next. *Star League* works the same way. The com-

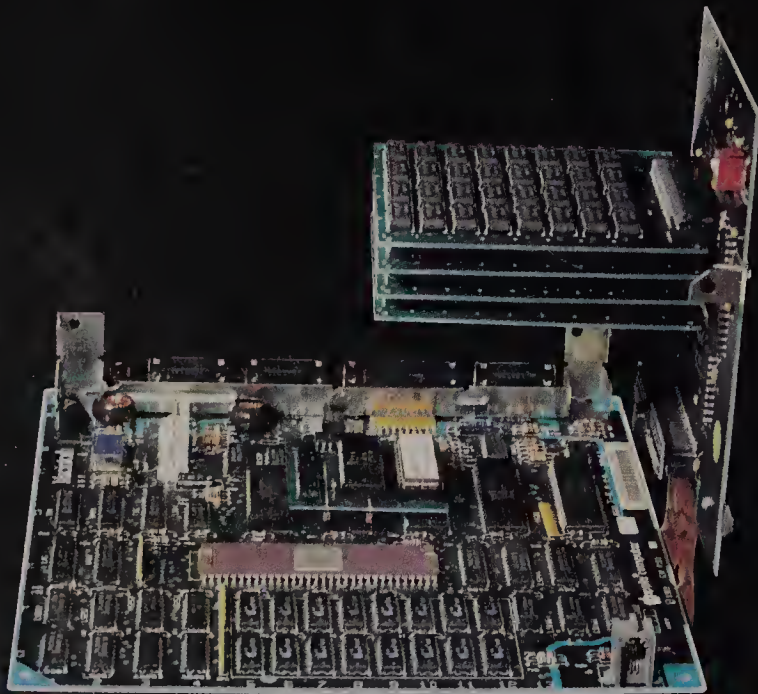
puter, for instance, bats worse when you mix up pitches; the old fast ball-change up combination often causes the confused batter to swat haplessly. You select a pitch—fast ball, knuckler, curve, sinker, and so on—by moving the mouse in a particular direction.

The bat swings when you press the space bar. A late swing directs the ball to the right side of the field, so the runners

can advance easily on a hit-and-run situation. Swing early, and you'll pull the ball toward left field. Of course, not every missed pitch is a strike—on occasion you or your adversary will issue walks. The duel between pitcher and batter can become interesting as you try to guess your opponent's strategy.



**A New Ball Game**  
Championship Star League Baseball lets you do everything from throwing a knuckleball to stealing a base.



# Micro Conversions' 1/2/4™ Megabyte Upgrade

Inside every Macintosh beats the heart of a superb machine. However, the sad fact is, most Macs will never have enough memory to run the major integrated software packages wholly from memory. Or perform other tricks. But yours can.

Available in 1 Meg, 2 Meg, or 4 Meg configuration, the Micro Conversions 1/2/4 Megabyte Upgrade is a modular and expandable memory system that will give you both the room to run and the room to grow. Since the Macintosh operating system can address only up to 4 Megabytes of RAM, the 1/2/4 is the ultimate memory system. And the 1/2/4 is HyperDrive® compatible.



Runners move forward or backward in response to keystrokes. You control the lead runner, and other runners advance if forced. It's easy with a little practice to control the runner and the batter at the same time.

### Fielding

In the field there is no relaxing. You have to keep your eye on the runners as well as the ball. Although the computer is less likely to take an extra base than is a human opponent, it's not above such aggressive tactics. You use the mouse to control the fielders as they pursue the ball or a base runner. If a player moves into the ball's path, the ball is fielded or caught. Similarly, if the fielder connects with a base runner, the runner is tagged out. To throw the ball, you click and move the mouse in the direction you want to throw. A good rule of thumb when playing against the computer is to throw to the base where the lead runner is headed, even if he appears to have it made.

When a ball is hit you must first determine whether it's a fly or a grounder (fly balls produce a shadow on the screen, ground balls don't). When the batter connects, the game quickly shows you where the play is; only the fielder nearest to the ball's path can be moved. This can be annoying. For example, sometimes it might seem like a ground ball could be fielded by the shortstop, but only the center fielder can be moved. Ruling: base hit.

I found that the computer makes few errors, so to win you must play aggressively. Lead off, steal bases, even hit-and-run, but be careful—the computer has a good pick-off move. It took me about ten games to beat the computer. You might have more luck against a human opponent.

### The Scorecard

*Star League* has a few drawbacks in addition to the annoying music. For example, it's possible to be thrown out at first base on a hit to left field. In addition, all the batters are right-handed, you can't name your teams, and the scoreboard that flashes on the screen between half-innings only tallies runs, not hits. Although the

game provides a relief pitcher, Knuckles Flanagan, you can only bring him in during the seventh inning. Therefore, if your pitcher tires during the eighth or ninth inning, Knuckles won't be available to bail him out. Finally, I would like to be able to give each batter special characteristics—such as fast-ball hitter, singles hitter, or base stealer—rather than simply designating batters as sluggers or line-drive hitters.

Despite these complaints, the game is compelling enough to keep you coming back. At first, just winning a game against the computer is challenge enough. Then try and shut it out—a goal that should probably get you through to opening day.

—Robert Buderl

*Championship Star League Baseball*  
*Gamestar*

1302 State St.

Santa Barbara, CA 93101

805/963-3487

List price: \$34.95

(continues on page 148)

# Makes your Mac the ULTIMATE MACINTOSH



Pioneers in 512K upgrades, we were also the first to break the "512K Barrier" with 1 Meg. Our 512K upgrade is the leader in the industry. Our 1/2/4 offers you the ultimate. Pick the size you need and go to the dealer of your choice. Or call us at 1-800-237-8622 (1-800-BEST MAC).

**μC Micro Conversions, Inc.**  
3600 Knoll Crest Drive  
Arlington, TX 76014  
(817) 465-5758

Circle 174 on reader service card

Apple and Macintosh are trademarks of Apple Computer, Inc.  
HyperDrive is a Trademark of General Computer Corporation





# NORTHEASTERN

## Software

88 Ryders Lane, Stratford, Connecticut 06497

1. Tap our unmatched selection and inventory of software/hardware for the Mac and Apple (as well as the IBM PC and Commodore Amiga).
2. School and corporate purchase orders are welcomed. CALL 1-800-874-1108.
3. Special/rush orders. If something you need is not listed, hard to find, or needed in a hurry, CALL 1-800-874-1108.
4. Order Status. CALL (203) 375-3860.
5. FREQUENT PURCHASER PROGRAM. Effective 10/14/85, any repeat customer who has placed an order after 9/4/85 will automatically receive \$1 off any order he or she places with us. Please mention to your operator that you are a repeat customer. We value your continuing business. Send in \$1,000 worth of invoices (representing previous purchases) and you will receive a coupon worth 1% off any future purchase. With \$5,000 worth of invoices, receive a coupon worth 5% off any future purchase.
6. SOFTWARE RENTAL LIBRARY. For 25% of our price, rent any program for two weeks. Apply your rental fee toward purchase if you choose.
7. No additional charges for credit card orders.
8. Technical experts on duty.
9. Convenient hours. 7 days/week: 9 AM-11 PM EST.
10. FREE AIR EXPRESS SHIPPING. Purchase \$150 or more of software and for no additional charge we will ship your products by air courier. Mention this to your operator as you place your order.
11. FURTHER DISCOUNTS BY MAIL. Circle the items in our ad you want, send the ad in with the coupon below and receive \$.50 off each item! Cut out a competitor's ad with a lower price and we will give you \$1 off his price (subject to the conditions below).

ORDER EARLY FOR THE HOLIDAYS. IF ORDERING AT THE LAST MINUTE, OUR AIR EXPRESS SERVICE CAN RUSH YOUR SOFTWARE/HARDWARE TO YOU. HAVE A HAPPY AND SAFE HOLIDAYS!

Send coupon and list of items desired to:	
	
<b>DISCOUNT BY MAIL DEPARTMENT</b>	
Northeastern Software, 88 Ryders Lane, Stratford, CT 06497	
To be eligible for the \$0.50 per item discount you must:	
1. Fill out all items. 2. Send in our ad with the items you desire circled.	
Name _____	
Address _____ (Include Company Name)	
City _____	State _____ Zip _____
Phone No. at above address _____	
Check form of payment	
<input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> C.O.D. <input type="checkbox"/> Personal Check	
<input type="checkbox"/> Certified Check <input type="checkbox"/> Money Order	
Card No. _____	Exp. Date _____
11 MACW	

Personal and company checks allow 3 weeks to clear. For faster delivery, send cashier's check, certified check, or money order. Shipping—Software (\$3.00 minimum). Shipping—Hardware (please call 203-375-3860). CAD—Add an additional \$2.00. Alaska, Hawaii, Canada, PO, APO, and FPO \$5.00 minimum. Foreign orders—\$15.00 minimum and 15% of all orders over \$100. Mastercard and Visa (please include card no. and expiration date). Connecticut residents add 7.5% sales tax. Prices subject to change without notice. All returns must have a return authorization number. Call 203-375-3860 to obtain one before returning goods for replacement. Defective merchandise replaced with same item only. We do not guarantee compatibility. All sales are final.

"Comparable advertised price" does not include typographical errors on the part of other vendors or prices that do not reflect higher shipping costs, credit card charges, or membership fees. The \$1 off offer only applies to items where Northeastern's price is not already the lowest. Final judgement remains with the manager on duty.

## WE WILL BEAT

(See Below)

### SPECIALS

BORLAND's Sidekick for the Mac:	42.00
Back to Basics Accounting:	87.25
Chipwits:	26.00
Copy II Mac:	19.00
Elephant Imagewriter Ribbon:	4.00
Excel:	222.00
ExperLoga:	74.00
Fontastic:	24.00
Gato:	26.00
Harrier Strike Mission:	23.50
Jazz, UNDER:	349.00
MacDraw:	135.00
Make Millions:	28.00
Megamax C Compiler:	174.00
Microsoft Chart:	72.00
Microsoft File:	110.50
Microsoft Word:	110.50
Sargon III:	28.50
Sany 3 1/2 Diskettes:	20.75
Thinktank 512K:	98.00
Thunderscan (new version):	167.00
Ultima III:	37.00
Wizardry:	34.75

### ACCOUNTING PROGRAMS

APPLIED LOGIC SYSTEMS	
BizMac Account Payable:	275.00
BizMac Accounts Receivable:	395.00
BizMac General Ledger:	340.00
BizMac Inventory:	279.00
BizMac Payroll (standalone):	CALL
BizMac Payroll (integrated):	379.00

ARRAYS/CONTINENTAL	
The Home Accountant:	51.00
CHANG LABS	
Rags to Riches (AP, AR, or GL):	98.00
DIGITAL, ETC.	
Macaccountant:	138.00

HABA SYSTEMS	
Haba Solutions:	36.00
INTERMATRIX	
Chequebook:	26.00
MONOGRAM	
Dallars & Sense:	75.00
Farecast:	39.75

OPEN SYSTEMS	
Open for Business I and II:	CALL
PALANTIR	
Accounts Receivable:	68.00
General Ledger:	68.00
Inventory Control:	68.00

PEACHTREE	
Accounts Payable:	83.00
Accounts Receivable:	83.00
General Ledger:	83.00

### SIERRA INFORMATION SYSTEMS

Accountant's Choice General Ledger:	CALL
SIERRA-ON-LINE	
Mac One Write:	133.00
SOFTSYNC	
Personal Accountant:	50.00
STATE OF THE ART	
Electric Checkbook:	43.95
SUPEREX	
Accounts Payable:	178.00
Accounts Receivable:	178.00
General Ledger:	178.00
Inventory Manager:	178.00
Inventory w/AR:	269.00
SYMPOSIUM	
General Ledger:	175.00
UNITED SOFTWARE	
In-House Accountant:	109.00

### ACCESSORIES

AMARAY	
Diskbank III:	12.00
AMERICAN TOURISTER	
Mac Carrying Case:	43.00
APPLE COMPUTER	
Mac Security Kit:	31.00
MacNumeric Keypad:	74.00
Macintosh Carry Case:	75.00
ASSIMILATION PROCESS	
Mac Daisy Wheel Connection:	CALL
Mac Epson Connection:	CALL
Mac Numeric Turbo:	CALL
Mac Turbo Touch:	CALL
Mac-Part-Adaptor:	CALL

AST	
RamStack 512K, UNDER:	599.00
RamStack 1 MB, UNDER:	999.00
RamStack 1.5 MB, UNDER:	1399.00
RamStack 2 MB, UNDER:	1799.00

COMPUTER IDENTICS CORP.	
Mac-Bar Code:	240.00
Scanstar-Mac:	500.00

CREIGHTON DEVELOPMENT	
ProPrint Software Only:	38.00
ProPrint with A/B Switch & 2 cables:	135.00
ProPrint with Cable:	52.00

CURTIS MANUFACTURING	
Diamond:	27.95
Emerald:	33.00
Ruby:	49.00
Sapphire:	43.00

DATALOGIC OPTIC ELECTRONICS	
Datapen:	CALL
DAYNA COMMUNICATIONS	
MacCharlie, UNDER:	1325.00

DOSS INDUSTRIES	
TOSH:	155.00

ELEPHANT	
Imagewriter Ribbon:	4.00

ENVIRONMENTAL SOFTWARE (MacAtire)	
(In blue, burgundy, or gray)	
Mac Cover w/Keyboard Cover & Mouse Pocket:	14.75

External Drive Cover:	5.00
Keypad Cover:	5.00
Imagewriter Cover (10" or 15"):	10.00

ERGOTRON	
MacTilt:	70.00

GTCO CORP.	
Macintizer:	CALL

HANZON	
Universal Interface for Epson:	58.95

HOGLUND	
PaintMate:	CALL

I/O DESIGN	
Imagewriter Carrying Case:	CALL
Imagewriter Transfer Ribbons:	9.00
Macintosh Carrying Case:	CALL
Macinware:	68.00
Mac Private Eye:	CALL

INNOVATIVE CONCEPTS	
Flip n File I/Micro:	7.00
Flip n File II/Micro:	17.00

INNOVATIVE TECHNOLOGIES	
Compubag:	51.00
Pocket Pack:	8.00
The Easel:	11.00

KALMAR DESIGNS	
Double MicroCabinet:	21.00
MicroCabinet:	12.00

KENSINGTON	
A/B Box:	58.50
Control Center:	59.95
Disk Case & Disk Pocket:	18.50
Disk Drive Cleaning Kit:	18.75
Disk Drive Cover:	6.95
Dust Cover:	8.00
Mouse Cleaning Kit w/pocket:	14.90
Mouse Pocket:	6.00
Polarizing Filter:	30.50
Printer Cover (10" or 15"):	8.00
Starter Pack:	51.00
Surge Suppressor:	32.00
Swivel:	20.00
Tilt/Swivel:	21.50
Universal Printer Stand:	15.75

KETTE GROUP	
MacNifty A/B Switch:	25.00
MacNifty ABCD Port Switch:	41.00
MacNifty Joystick Converter:	35.00
MacNifty Sound Digitizer:	105.00
MacNifty Stereo Music System:	58.00

KOALA	
KAT:	131.75
MacVision:	167.00

\*\*\* Top rated in a leading consumer magazine



# CALL TOLL FREE 1-800-382-2242

## Connecticut Orders Call (203) 375-3860

### IN CANADA 1-800-843-0074

#### SHAPECHANGER SOFTWARE

Webster's Revenge	CALL
<b>SIERRA-ON-LINE</b>	
Championship Boxing	21.50
Frogger	21.50
King's Quest II	CALL
Ultima II	34.00
<b>SILICON BEACH SOFTWARE</b>	
Airborne	19.00
Enchanted Scepters	19.00
<b>SIR TECH</b>	
Wizardry	34.75
<b>SOFT LIFE</b>	
MacSlots	25.00
<b>SPECTRUM HOLOBYTE</b>	
Goto	26.00
<b>STAR SYSTEMS SOFTWARE</b>	
12 Classic Adventures	36.00
<b>TELARIUM</b>	
Amazon or Dragon World	25.90
Fahrenheit 451	25.90
Rendezvous With Rama	25.90
<b>UNICORN SOFTWARE</b>	
Futurio	24.00
Utopia	24.00
<b>VIDEX</b>	
FunPack	21.00
MacGammon & Cribbage	27.75
MacVegas	33.00

#### GRAPHICS SOFTWARE

<b>ALTYSYS</b>	
Fontastic	24.00
<b>APPLE COMPUTER</b>	
MacDraw	135.00
<b>ANN ARBOR SOFTWARE</b>	
Animation Tool Kit I	30.00
Animation Tool Kit I Advanced	CALL
Animation Tool Kit II	CALL
In Motion	CALL
<b>AXLON</b>	
Art Portfolio	33.00
Cord Shoppe	33.00
<b>BRODERBUND</b>	
The Print Shop	CALL
<b>CASADY COMPANY</b>	
Fluent Fonts	28.00
<b>CHALLENGER SOFTWARE</b>	
Mac3D	CALL
<b>COMPUSERVCO</b>	
MacCod	CALL
(Templates are below)	
Architectural Design	82.00
Drafting Toolkit	38.00
Electrical and Electronic	82.00
Flowcharts and Logic	66.00
Home Designer	82.00
Layout Planner	74.00
Mechanical Design	82.00
PC Board Design	82.00
Rules Isometric w/Ovals	74.00
Single Line Isometric Piping	82.00
Single Line Orthographic Piping	82.00
Two Line Orthographic Piping	82.00
<b>DIABLO VALLEY DESIGN</b>	
MacGrid	26.00
<b>DIVERSIONS INC.</b>	
Underware Color Pens	8.75

Underware Ribbon	8.75
Jumbo Color Pens	14.00
<b>ENTERSET</b>	
Quickpoint	26.00
<b>ESOF ENTERPRISES</b>	
Color Chart	69.00
<b>FOUNDATIONS SYSTEMS</b>	
MacMeasure	CALL
<b>HAYDEN SOFTWARE</b>	
Art Grabber w/Body Shop	28.00
Home Design	45.50
DaVinci Buildings or Interiors	26.50
DaVinci Landscapes	26.50
DaVinci Building Blocks	44.50
DaVinci Commercial Interiors	113.00
Videoworks	54.00
<b>INNOVATIVE DATA DESIGN</b>	
MacDraft	135.00
Paste-Ease	35.00
<b>I/O DESIGNS</b>	
ColorPrint Ribbon	6.50
ColorPrint Software	28.00
ColorPrint Starter Kit w/3	
ribbons	44.00
ColorPrint Transfer	58.00
<b>KENSINGTON MICROWARE</b>	
Graphic Accents	28.00
Professional Type Fonts for	
Headlines	39.00
Professional Type Fonts for Text	28.00
<b>LINGUIST'S SOFTWARE</b>	
Tech	68.00
<b>MAGNUM SOFTWARE</b>	
McPic Volume 1 or 2	26.00
The Slide Show Magician	31.00
<b>MANHATTAN GRAPHICS</b>	
Ready Set Go	53.00
<b>MATRIX ASSOCIATES</b>	
Images	26.75
<b>MESA GRAPHICS</b>	
Plot It	66.00
<b>MICRO: MAPS</b>	
MacAtlas U.S.A.	57.00
MacAtlas World	57.00
<b>MICROSPOT</b>	
MacPlot	CALL
<b>MILES COMPUTING</b>	
Mac The Knife Volume 1	20.00
Mac The Knife Volume 2	24.00
Mac The Knife Volume 3	CALL
<b>SOUTH BAY SYSTEMS</b>	
Music Character Set	19.00
<b>T/MAKER</b>	
Click Art Effects or Letters	27.00
Click Art Personal Graphics	27.00
Click Art Publications	27.00
<b>VAMP INC.</b>	
MacCad	CALL

#### BACKUP AND UTILITY SOFTWARE

<b>ASSIMILATION PROCESS</b>	
Guardian	CALL
Mac Memory Disk	CALL
Mac Tracks	CALL
Work N Print	CALL

#### BATTERIES INCLUDED

Mac Battery Pak	27.00
<b>BAY SYSTEMS SOFTWARE</b>	
Hard Disk Util.	45.00
<b>CENTRAL POINT SOFTWARE</b>	
Copy II Mac	19.00
<b>CRYSTAL CANYON</b>	
Mac Librarian	29.00
<b>DREAMS OF THE PHOENIX</b>	
Quick and Dirty Utilities	26.75
<b>HIPPOTAMUS SOFTWARE</b>	
Hippo-Lock	64.00
<b>IDEAFORM</b>	
MacLabeler	28.00
<b>MAINSTAY</b>	
Disk Ranger	31.00
MacBooster	31.00
N'cryptor	25.00
Type Now	25.00
<b>MICROANALYST</b>	
MacZap	34.00
<b>NEVINS MICROSYSTEMS</b>	
TurboCharger	54.00
<b>PBI SOFTWARE</b>	
Icon Libraries	13.95
Icon Switcher	13.95
<b>PCA SOFTWARE</b>	
MacBackup	40.00
<b>PROTEK IT SOFTWARE</b>	
Procopy	28.00
<b>SMB DEVELOPMENT</b>	
MacMate	34.00
<b>SILICON BEACH SOFTWARE</b>	
Accessory Pak 1	19.00
<b>SOFTSTYLE</b>	
Epstart	27.00
Jetstart	27.00
Laserstart	58.00
Tistart	45.00
Toshstart	27.00
<b>SOUTHEASTERN SOFTWARE</b>	
Mac Transfer	30.95
<b>SYMMETRY CORP.</b>	
Quick Disk	21.00
<b>TARDIS SOFTWARE</b>	
C Leaner	34.75
Fast Finder	34.75
Mac Programmer's Library	144.75
MacMake	34.75
Tools #1	34.75
Tools #2	34.75
<b>TESSERAFT SOFTWARE</b>	
MacCopy	38.75

#### LANGUAGES

<b>APPLE COMPUTER</b>	
MacPascal	87.00
Macintosh 68000 Development	
System	137.00
<b>CONSULAIR</b>	
Mac-C w/Toolkit	CALL
Mac-C w/Toolkit & Floating	
Point	220.00
Smartthinker	65.00
<b>CREATIVE SOLUTIONS</b>	
MacForth Level I	CALL
MacForth Level II	CALL

#### EXPERTELLIGENCE

ExperLisp	235.00
ExperLogo	70.00
ExperOPSS	163.00
<b>HIPPOTAMUS SOFTWARE</b>	
Hippo-C Level I	73.00
Hippo-C Level II	213.00
Hippo-C Upgrade Kit	133.00
<b>IQ SOFTWARE</b>	
CPM for the Macintosh	290.00
<b>KRIYA SYSTEMS INC.</b>	
Neon	125.00
<b>LOGIQUE</b>	
C.P. Mac	CALL
<b>MAINSTAY</b>	
MacASM	73.00
<b>MANX</b>	
Aztec C68K-C	403.00
Aztec C68K-D	241.00
Aztec C68K-P	160.00
<b>MEACOM</b>	
Mac+ II	CALL
<b>MEGAMAX INC.</b>	
Megamax C Compiler	174.00
<b>MICROMOTION</b>	
Masterforth	88.00
<b>MICROSOFT</b>	
Fortran Compiler	165.00
Microsoft Basic 2.1	85.00
Microsoft Logo	73.00
<b>SOFTTECH MICROSYSTEMS</b>	
Advanced Development Toolkit	97.00
Fortran 77 Development	
System	188.00
Fortran 77 Language Compiler	154.00
Mac Advantage UCSD Pascal	150.00
UCSD Pascal Development	
System	127.00
UCSD Pascal Language Compiler	91.00
<b>SOFTWARES LIMITED</b>	
Softworks C Compiler	234.00
<b>TERRAPIN</b>	
MacLogo	CALL

#### MODEMS

<b>ANCHOR AUTOMATION</b>	
Mork XII	227.00
<b>APPLE COMPUTER</b>	
Apple Modem 1200 Baud w/	
acc. kit	349.00
Apple Modem 300 Baud w/acc.	
kit	157.00
<b>COMPUABLE</b>	
Mac to Smartmodem Cable	16.00
<b>HAYES MICROCOMPUTING</b>	
Smartmodem 1200	363.00
Smartmodem 2400	575.00
Smartmodem 300	128.00
Transet	268.00
<b>KENSINGTON</b>	
Portable Modem (300 Baud)	85.00
<b>MICROCOM</b>	
Mac Modem 1200 w/software	385.00
Mac Modem 2400 w/software	553.00
<b>NOVATION</b>	
Cot Comm Communications	
System	274.00

#### PRENTICE

Popcom X-100 Modem (Mac)	253.00
<b>PROMETHEUS</b>	
MacPack	39.00
Promodem 12DD with Mac	
Software	322.00
<b>U.S. ROBOTICS</b>	
Courier 24DD	387.00
Password 120D	194.00

#### PRINTERS

<b>APPLE COMPUTER</b>	
Imagewriter II (NEW!), UNDER	449.00
Imagewriter, UNDER	400.00
Imagewriter Wide Carriage,	
UNDER	CALL
LaserWriter Printer, UNDER	4900.00
<b>BROTHER</b>	
HR-10	180.00
HR-15XL	335.00
HR-25	455.00
HR-35	665.00
<b>C. ITOH</b>	
ProWriter 1550SR	580.00
ProWriter 851DBC-2	390.00
ProWriter 851DSR	440.00
<b>EPSON</b>	
DX 10	CALL
DX 20	CALL
FX B5	CALL
FX 185	CALL
LQ 1500	CALL
LX B0	209.00
<b>JUKI</b>	
5510S	449.00
6100S***	375.00
620DS	560.00
6300S	635.00
<b>NEC</b>	
Color Pinwriter CP2T	CALL
Color Pinwriter CR3T	CALL
e.i.f. 36D	CALL
NEC3510, UNDER	995.00
NECBB10, UNDER	1350.00
Spinwriter Accessory Kit for Moc	CALL
<b>OKIDATA</b>	
ML-192S Mac/Lisa	365.00
ML-193S Mac/Lisa	540.00
<b>PANASONIC</b>	
KXP 1091***	240.00
KXP 1092	360.00
KXP 1093	425.00
KXP 3151 Letter Quality	395.00
<b>STAR MICRONICS</b>	
SD-10	338.00
SD-15	440.00
SG-10	219.00
SG-15	375.00
SR-10	485.00
SR-15	585.00
<b>TOSHIBA</b>	
P-1340	435.00
P-351, UNDER	1020.00



# THE MOST EXTENSIVE SELECTION AT THE

## ANY COMPARABLE ADVERTISED PRICE

KRAFT		BOOKS		DATAPAK SOFTWARE		MEGAHAUS		SOFTWARE TOOLS	
Quick Stick	44.00	Inside MacPaint	13.00	My Office	CALL	MegaFiler	98.00	Engineering Tool Kit	74.00
<b>MACMEMORY ELECTRONICS</b>		Lotus Guide to Jazz	15.00	<b>DESKTOP SOFTWARE</b>		MegaForm	147.00	<b>STATSOFT</b>	
The Max	CALL	MacWork Multiplan	13.00	1st Base	94.00	MegaMerge	63.00	StatFast	68.00
<b>MAGNUM</b>		Microsoft Multiplan	12.75	1st Base and 1st Merge	127.00	<b>MICROLAB</b>		DataFast	38.00
The Mouse Mover	CALL	Microsoft Moinations	13.00	1st Merge	46.00	Tax Manager	105.00	<b>STONEWARE</b>	
<b>MASS TECH DEVELOPMENT LABS</b>		Presentotion Graphics on Apple		<b>DOW JONES</b>		<b>MICROSOFT</b>		DB Master Mac	102.00
Fast Mac Upgrade	CALL	Mac	13.00	Market Manager Plus	107.00	Chart	71.00	<b>SUPEREX</b>	
<b>MICAH</b>		The Apple Macintosh Book	13.00	Spreadsheet Link	48.00	Excel	222.00	Electronic Engineering	58.00
MacMegabytes 128K to 1MB		The Book of Macintosh Software	17.00	<b>DREAMS OF THE PHOENIX</b>		File	110.00	Esti Mac	58.00
RAM Expan.	649.00	The Printed Word	13.00	Day Keeper Colendor	27.00	Mac Business Pock	CALL	Home Executive	54.00
MacMegabytes 512K to 1MB		<b>BUSINESS SOFTWARE</b>		<b>ELECTRONIC ARTS</b>		Multiplan	105.00	Mac Choice	29.00
RAM Expan.	429.00	<b>ADVANCED LOGIC SYSTEMS</b>		<b>EMERGING TECHNOLOGIES</b>		Word	110.00	Mac Fee	178.00
ROM Enhancement	69.00	Mighty Mac	35.00	MacOffix	78.00	<b>MILES COMPUTING</b>		Mac Finance	57.00
<b>MICRON TECHNOLOGY</b>		<b>AEGIS DEVELOPMENT</b>		<b>ENTERSET</b>		Miles Ahead Stock Charter	CALL	Mac Notes	53.00
Micron Eye	309.00	The Housekeeper	44.75	Quickword	31.00	<b>MODEL OFFICE COMPANY</b>		<b>TELOS</b>	
<b>MICRORAIN</b>		Zap! Invoice	60.75	<b>EXECUCOM SYSTEMS CORP.</b>		Document Modeler	CALL	Filevision	94.00
MacStation	79.00	<b>ALDUS</b>		Mindsight	CALL	The Date Calculator	CALL	<b>WARNER</b>	
<b>MICROSOFT</b>		Pagemaker, UNDER	34.50	<b>FORETHOUGHT</b>		<b>ODESTA</b>		Desk Organizer	54.00
MacEnhancer	152.00	<b>ALLEGRO SOFTWARE</b>		FactFinder	84.00	Helix	215.00	<b>COMMUNICATIONS SOFTWARE</b>	
Power Back-Ups	CALL	Business Analysis Multiplan		Filemaker	104.00	ODS, Inc.		<b>AEGIS DEVELOPMENT</b>	
<b>MOUSE SYSTEMS</b>		Templates	29.00	<b>HABA SYSTEMS</b>		Consultant	108.00	Mac Mail Telecom	CALL
A+ Optical Mouse	58.00	Personal Fin. Multiplan		Habodex	CALL	PALADIN		<b>APPLE COMPUTER</b>	
<b>MOUSETRAK</b>		Templotes	29.00	Quartet	110.00	Crunch	158.00	MacTerminal	85.00
Mousetrak Pad	7.75	<b>APPLE COMPUTER</b>		<b>HARRIS TECHNICAL SYSTEMS</b>		<b>PROVUE DEVELOPMENT</b>		<b>CLEO SOFTWARE</b>	
<b>MPH COMPUTER PRODUCTS</b>		MacProject	132.00	Profit Projections/Breakeven		OverVUE	144.00	CLEO	675.00
Mac-B-Cool	CALL	<b>APPLIED LOGIC SYSTEMS</b>		Analysis	46.75	<b>REAL DATA, INC.</b>		<b>COMPUSERVE</b>	
<b>NEW IMAGE TECHNOLOGY</b>		MacMathPac	165.00	<b>HAYDEN SOFTWARE</b>		Commercial/Industrial		Compuserve Starter Kit	14.00
Magic Digitizer	248.95	<b>APROPOS</b>		Ensemble	139.00	Applications	59.00	<b>DATAVIZ</b>	
<b>OBERON INTERNATIONAL</b>		Financial Planning	44.00	Hayden Chart	58.00	Financial Analysis	59.00	MacLink with cable	86.75
Omni-Reader	431.00	Investment Planning	44.00	Hayden Speller	44.00	On Schedule	112.00	<b>DESKTOP SOFTWARE</b>	
<b>OPTIMUM</b>		<b>ARTSCI</b>		I Know It's Here Somewhere	34.00	Real Estate Investment Analysis	87.00	1st Port	47.00
MacTote	59.00	Magic File	57.00	MacBose	CALL	Residential Real Estate	59.00	<b>DILITHIUM PRESS</b>	
<b>PERFECT DATA</b>		Softforms	24.00	<b>HAYES MICROCOMPUTER</b>		Tax Shelter Syndication	168.00	PC to Mac and Back	75.75
Head Cleaning Kit	11.00	<b>ASSIMILATION PROCESS</b>		Please	117.00	Analysis		<b>DOW JONES</b>	
<b>PERSONIC CORP.</b>		Business Essentials	CALL	<b>HEYDEN AND SON</b>		Construction Estimator	41.00	Straight Talk	43.00
View Control System	138.00	MacSpell Right	CALL	Statworks	86.00	<b>RIO GRANDE SOFTWARE</b>		<b>DREAMS OF THE PHOENIX</b>	
<b>SERIDYNE SYSTEMS</b>		The Right Word	CALL	<b>HUMAN EDGE SOFTWARE</b>		RGS File and Report	CALL	Mouse Exchange BBS	26.75
Micro Imager	340.00	<b>BLTYH SOFTWARE</b>		Communication Edge	97.00	RGS File Plus	CALL	Mouse Exchange Terminal	26.75
<b>SMITH AND BELLOWES</b>		Omnis 2	CALL	Management Edge	127.00	Softmaker II (128K)	CALL	<b>HABA SYSTEMS</b>	
Mahogany Disk Case	17.75	Omnis 3	243.00	Mind Prober	25.00	Softmaker II (512K)	CALL	HoboCom	41.50
<b>SOUTH BAY SYSTEMS</b>		<b>BOSTON SOFTWARE PUBLISHERS</b>		Negotiation Edge	147.00	Legal Billing	CALL	<b>HAYES MICROCOMPUTER</b>	
Mouse Pad	12.00	MacIndex	CALL	Sales Edge	127.00	<b>SMITH MICRO SOFTWARE</b>		Smartcom II	85.00
<b>SUMMAGRAPHICS</b>		The MacPublisher	69.00	<b>LAYERED</b>		Market Link	44.00	<b>KAZ BUSINESS SYSTEMS</b>	
Mac Tablet, UNDER	399.00	The MacPublisher II	CALL	Front Desk	76.00	Stock Portfolio System	105.00	MacDasher	CALL
<b>SUPEREX</b>		<b>BRAINPOWER</b>		<b>LAZER SOFTWARE</b>		<b>SOFTDESIGN</b>		<b>MAINSTAY</b>	
MacSpeak	17.95	Statview	97.75	Lazerbase	CALL	TimeBase	86.00	Telescope	78.00
<b>SYTEM CONTROL</b>		<b>BROCK SOFTWARE</b>		<b>LIGHTYEAR, INC.</b>		<b>SOFTECH MICROSYSTEMS</b>		<b>MYCROFT LABS</b>	
MacGard	55.95	Keystroke Database	74.00	Lightyear	CALL	Mail Manager	67.75	Mite	86.00
<b>THUNDERWARE</b>		<b>COMPUTER SOFTWARE DESIGN</b>		<b>LIVING VIDEOTEXT</b>		Mail Merge	68.00	<b>PERIPHERALS, SUPPLIES &amp; COMPUTERS</b>	
Thunderscan (new version)	167.00	MacLion	CALL	Think Tonk 128K	72.00	<b>SOFTIDEA</b>		VersoTerm	CALL
<b>TPS ELECTRONICS</b>		<b>CREIGHTON DEVELOPMENT</b>		Think Tonk 512K	98.00	Decision Map	79.00	<b>SOFTWARE MASTERS</b>	
TPS PC-380 Bar Code Reader	CALL	MacHome	23.00	<b>LOTUS</b>		<b>SOFTVIEW</b>		In Touch	77.00
<b>TRI-DATA</b>		MacOffice	23.00	Jazz, UNDER	349.00	Macintax '85	54.00	<b>SOURCE TELECOMPUTING</b>	
Netway	CALL	MacSpell+	51.00	<b>MAIN STREET SOFTWARE</b>		<b>SOFTWARE PUBLISHING</b>		Source On-Line Information	
<b>VIDEO 7</b>		<b>DATAFOOD</b>		Main Street Filer	51.00	PFS File/Report Combo	99.00	Network	30.00
Mouse Stick	38.75	Drawforms	30.00	Moin Street Writer	51.00				
		MacForms	42.00						



# SIVE MACINTOSH IE BEST PRICES!!!

## PRICE BY \$1

### SOUTHEASTERN SOFTWARE

Mac Transfer	30.00
VIDEO	
Mail Center for Two	160.00
Mail Center for Six	260.00

### DESK ACCESSORY SOFTWARE

<b>BORLAND</b>	
Sidekick	42.00
<b>DUBL-CLICK SOFTWARE</b>	
Calculator Construction Set	57.00
<b>DREAMS OF THE PHOENIX</b>	
Twelve-C	26.75
<b>ENTERSET</b>	
QuickSet	26.00
<b>HABA SYSTEMS</b>	
Haba Window Dialer	25.00
<b>HARVARD ASSOCIATES</b>	
Desk Toppers	28.00
<b>MACADAM PUBLISHING</b>	
Window Calendar	29.95
Window Phone Book	29.95
Window Phonebook and Calendar	49.95
<b>MEGAHAUS</b>	
MegaDesk	58.75
<b>T/MAKER</b>	
ClickOn Worksheet	45.00
<b>VIDEO</b>	
MacCalendar	49.75

### DISK DRIVES

<b>APPLE COMPUTER</b>	
Macintosh External Drive	354.00
Macintosh Hard Disk 2DMB, UNDER	1099.00
<b>CORVUS</b>	
Mac Network Interface Cord	146.00
Omni Talk	295.00
5.5 MB Mac OmniDrive, UNDER	959.00
11.1 MB Mac OmniDrive, UNDER	1379.00
45.1 MB Mac OmniDrive, UNDER	3399.00
<b>DATASPACE</b>	
DS BODK Disk Drive	CALL
<b>GENERAL COMPUTING</b>	
10 MB Hyperdrive, UNDER	1269.00
20 MB Hyperdrive, UNDER	1565.00
Toolkit	173.00
<b>HABA SYSTEMS</b>	
HabaDisk 400KB w/softbundle	279.00
HabaDisk 800KB w/softbundle	CALL
<b>INFOSPHERE</b>	
XL/Serve	145.00
<b>IOMEGA</b>	
5 MB cartridge	38.00

Bernoulli Box, UNDER	1,270.00
Head cleaning kit for Bernoulli box	56.75

### MICROTECH INTERNATIONAL

BAL 3 1/2" Disk Drive	CALL
-----------------------	------

### MIRROR TECHNOLOGY

Shugart Manual Eject Drive	CALL
----------------------------	------

### MITSUBA

Super 5 Mac External Drive	CALL
----------------------------	------

### PARADISE SYSTEMS

Mac 1D Hard Disk Subsystem, UNDER	1029.00
--------------------------------------	---------

### PERSONAL COMPUTER PERIPHERALS

MacBottom Hard Disk	CALL
---------------------	------

### QUARK

QC10 Meg Hard Disk, UNDER	999.00
---------------------------	--------

QC20 Meg Hard Disk, UNDER	1379.00
---------------------------	---------

### REMINGTON

Mac External Drive (Shugart)	280.00
------------------------------	--------

### TECMAR

10 MB Fixed Mac Drive, UNDER	875.00
------------------------------	--------

5 MB Removable Mac Drive, UNDER	875.00
------------------------------------	--------

### WESTERN AUTOMATION LABS

Dasch Extern. Ram Disk 5DDK, UNDER	399.00
---------------------------------------	--------

Dasch Extern. Ram Disk 1000K, UNDER	595.00
--	--------

Dasch Extern. Ram Disk 20DDK, UNDER	969.00
--	--------

### DISKETTES

BASF 3 1/2	9.75
Elephant 3 1/2	22.00
Fuji 3 1/2	20.00
Maxell 3 1/2	22.00
Memorex 3 1/2	23.00
Sony 3 1/2	20.75
Verbatim	22.00

### CREATIVE/ EDUCATIONAL SOFTWARE

<b>ATI</b>	
MacCoach	38.75
Teach Yourself Jozz	38.75
Teach Yourself Multiplan	28.75

### ASSIMILATION PROCESS

M.I.D.I. Conductor	CALL
--------------------	------

M.I.D.I. Composer	CALL
-------------------	------

### AXLON

Typing Avalanche	35.00
------------------	-------

### BRAINPOWER

Chipwits	26.00
----------	-------

Thinkfast	21.50
-----------	-------

### CAMDE

Nutricalc	58.00
-----------	-------

### DAVIDSON AND ASSOCIATES

Math Blaster	26.00
--------------	-------

Speed Reader II	35.75
-----------------	-------

Spell It	26.00
----------	-------

Word Attack	26.00
-------------	-------

### FIRST BYTE

Kidtalk	40.00
---------	-------

Smooth Talker	49.00
---------------	-------

Speller Bee	48.00
-------------	-------

### FORETHOUGHT

Typing Intrigue	28.75
-----------------	-------

### GREAT WAVE SOFTWARE

ConcertWare Plus	35.00
------------------	-------

### HARVARD ASSOCIATES

MacManager	28.00
------------	-------

### HAYDEN SOFTWARE

Computer Novel Construction Set	28.75
------------------------------------	-------

MusicWorks	44.00
------------	-------

Score Improvement System SAT	56.00
------------------------------	-------

Turbo Turtle	34.50
--------------	-------

### HIPPOPOTAMUS SOFTWARE

Hippo Computer Almanac	19.00
------------------------	-------

Hippo Sound Studio	CALL
--------------------	------

### MARK OF THE UNICORN

Professional Composer	240.00
-----------------------	--------

### MICROSOFT

Entrepreneur	30.00
--------------	-------

Learning Multiplan and Chart	36.00
------------------------------	-------

### PALANTIR

MacType	24.00
---------	-------

Math Flash	26.00
------------	-------

Word Play	26.00
-----------	-------

### QED INFORMATION SCIENCES

Typing Mode Easy	34.00
------------------	-------

### QUEUE INTELLECTUAL SOFTWARE

Address Book	28.00
--------------	-------

American History Adventure	43.00
----------------------------	-------

Comprehensive Grammar Review	40.00
---------------------------------	-------

How a Bill Becomes a Law	43.75
--------------------------	-------

PreNatal Baby Core	25.00
--------------------	-------

Reading Adventure I	28.00
---------------------	-------

Reading Adventure II	38.00
----------------------	-------

Starting a New Business	43.00
-------------------------	-------

U.S. Geography Adventure	43.00
--------------------------	-------

Vocabulary Adventure I	43.00
------------------------	-------

Vocabulary Adventure II	43.00
-------------------------	-------

World Geography Adventure I	43.00
-----------------------------	-------

World Geography Adventure II	43.00
------------------------------	-------

### RUBICON PUBLISHING

Deja Vu	21.00
---------	-------

SongPainter	31.00
-------------	-------

### SCARBOROUGH

Make Millions	28.00
---------------	-------

Mostertype	24.00
------------	-------

Run for the Money	24.00
-------------------	-------

### SHAHRAZAM

MusicType 2.D	31.00
---------------	-------

### SIMON & SCHUSTER

Mac Art Department	23.00
--------------------	-------

Paper Airplane Construction Set	23.00
---------------------------------	-------

Speed Reading Tutor	CALL
---------------------	------

Typing Tutor III	30.00
------------------	-------

### SOFTWARE CONCEPTS

Concepts Computerized Atlas	CALL
-----------------------------	------

### SPECTRUM HOLOBYTE

Tellstar Astronomy Program	33.00
----------------------------	-------

### THINK EDUCATIONAL

MacEdge II	28.00
------------	-------

MacEdge Plus	28.00
--------------	-------

Mad Mac & His Mindbox	28.00
-----------------------	-------

Mind Over Mac	28.00
---------------	-------

### TIMEWORKS

Evelyn Wood Dynamic Reader	40.00
----------------------------	-------

### GAMES

### ACTIVISION

Championship Star Baseball	20.50
----------------------------	-------

### AEGIS

Mac-Challenger	21.50
----------------	-------

Pyramid of Peril	21.50
------------------	-------

Red Flag	CALL
----------	------

### ANN ARBOR SOFTWARE

Grid Wars	21.50
-----------	-------

Lunar Explorer	35.00
----------------	-------

### ARTSCI

Hearts	17.75
--------	-------

### ARTWORX

Strip Poker	24.00
-------------	-------

### AXLON

MacMatch	29.00
----------	-------

### BLUE CHIP SOFTWARE

Boron or Millionaire	28.00
----------------------	-------

Squire or Tycoon	28.00
------------------	-------

### BRAINPOWER

Telechess	40.00
-----------	-------

Torpedo Run	27.00
-------------	-------

### BRODERBUND

Ancient Art of War	26.50
--------------------	-------

Cyborg or Lode Runner	23.00
-----------------------	-------

### CBS SOFTWARE

Murder by the Dozen	14.75
---------------------	-------

### CREIGHTON DEVELOPMENT

MacCommand	17.75
------------	-------

### ELECTRONIC ARTS

Deluxe Music Construction Set	31.00
-------------------------------	-------

Pinball Construction Set	27.00
--------------------------	-------

### EPYX

Rogue	17.95
-------	-------

### GENERAL COMPUTER CO.

Ground Zero	23.75
-------------	-------

### HAYDEN SOFTWARE

Holy Grail or Sargon III	28.00
--------------------------	-------

Masterpieces or Perplex	23.00
-------------------------	-------

World Challenge II	23.00
--------------------	-------

### HENDERSON ASSOCIATES

Real Poker	20.00
------------	-------

### HIPPOPOTAMUS SOFTWARE

Hippo Jokes and Quotes	19.00
------------------------	-------

### INFOCOM

A Mind Forever Voyaging	26.00
-------------------------	-------

Cutthroats or Enchanter	23.00
-------------------------	-------

Deadline or Starcross	28.00
-----------------------	-------

Hitchhiker's Guide to the Galaxy	23.00
----------------------------------	-------

Infidel or Sorcerer	26.00
---------------------	-------

Planetfall or Seastalker	23.00
--------------------------	-------

Suspect or Suspended	26.00
----------------------	-------

Wishbringer or Witness	23.00
------------------------	-------

Zork I	23.00
--------	-------

Zork II or III	26.00
----------------	-------

### KASTEL TECHNOLOGY

Trivia Savant	22.00
---------------	-------

### MARK OF THE UNICORN

Mouse Stampede	20.00
----------------	-------

### MAGNUM SOFTWARE

Gypsy	22.00
-------	-------

### MILES COMPUTING

Fusillade	CALL
-----------	------

Harrier Strike Mission	23.50
------------------------	-------

MacAttack	19.00
-----------	-------

MacWars	CALL
---------	------

Overlords	CALL
-----------	------

### MINDSCAPE

A View To A Kill	CALL
------------------	------

Balance of Power	29.00
------------------	-------

Racter	CALL
--------	------

The Mist	CALL
----------	------

### MIRAGE CONCEPTS

Trivia	11.50
--------	-------

### MCCARRON-DIAL SYSTEMS

McFlip	21.00
--------	-------

McTrivia	24.00
----------	-------

### NEWSOFT

NewGammon	21.00
-----------	-------

### ORIGIN SYSTEMS

Ultima III	37.00
------------	-------

### PBI SOFTWARE

Feathers & Spore	20.00
------------------	-------

Fokker Triplane	34.00
-----------------	-------

Strategic Conquest	29.00
--------------------	-------

### PENGUIN

Pensote or The Quest	21.50
----------------------	-------

Transylvania or Xyphus	21.50
------------------------	-------

### PROFESSIONAL SOFTWARE

Super Sports Trivia	18.00
---------------------	-------

Trivia Fever	20.50
--------------	-------

Trivia Fever Volume II	13.95
------------------------	-------

### PRIORITY SOFTWARE

Forbidden Quest	22.50
-----------------	-------

Gateway	24.00
---------	-------

### SABAKI

MacPoly	25.00
---------	-------

### SCREENPLAY

Asylum	24.50
--------	-------

Professional Blackjack	49.00
------------------------	-------

Trivia Arcade	19.95
---------------	-------



(continued from page 143)

## Alternative Laser Printers

The attractions of laser printers are many. They're fast, quiet, durable machines that can handle cut-sheet paper, letterhead stationery, envelopes, and even transparent acetate. The results, at 300 dots per inch, are invariably crisp and attractive. And the ability to print both graphics and type in a myriad of styles makes these versatile machines ideal for business documents, technical manuals, flyers, and many other publishing applications.

If you are interested in taking advantage of laser printing but aren't willing or able to shell out \$6995 for Apple's LaserWriter, Hewlett-Packard's **LaserJet** and **LaserJet Plus** are enticing alternatives. Priced at \$2995 and \$3995 respectively, these printers are based on the same Canon LBP-CX laser printer engine used in

the LaserWriter. The difference is in the controller board, the circuitry that orchestrates the placement of the tiny spots of toner on a page.

While the LaserWriter incorporates the powerful PostScript page description language, the LaserJet uses a less sophisticated system of escape codes called Printer Control Language, or PCL. In contrast to PostScript, PCL has limited powers: its graphics commands are rudimentary, and

it has no ability to easily scale type or print it at orientations other than upright and standard.

### Font Cartridges

On the other hand, the LaserJet's features were carefully chosen by Hewlett-Packard to be the ones most important for

(continues on page 150)



**LaserJet**  
Hewlett-Packard's LaserJet printer is well suited for producing most standard office documents.



**RECORD  
HOLDER**  
Data Manager for the Macintosh™

**WHY PAY  
HUNDREDS  
OF DOLLARS  
FOR A  
FILING  
SYSTEM  
...AND SETTLE  
FOR  
SECOND  
BEST?**

Introducing **Record Holder™**, the *best* Data Manager **\$49.95** for the Mac, at a ridiculously low introductory price of

**Record Holder** is a full function data manager that allows you to store up to 32K of text and is so easy to use that you can get a report out in less than 5 minutes.

#### Easy To Learn

- Comprehensive manual includes a tutorial section.
- You never feel lost with over 100 HELP screens.

#### Easy To Use

- Need not define the length of your fields. All fields are variable in length.
- What you see is what you get. Designing both Screen and Report is as easy as clicking and dragging with the mouse.
- Make mailing labels in seconds.

#### Flexible

- Allows text fields of up to 32,000 characters.
- Allows Calculated or Computed fields.
- Allows Date, Numeric and Money formats.

#### Loaded With Features

- Unique Table of Contents Window allows global view of your database and instant access to any record.

- Powerful and flexible searching capabilities.
- Allows Totals, Averages and Count as well as Running Totals and Running Counts for Report generation.
- Up to 124 sort levels for Report generation.
- Allows unlimited number of Report Formats per file.
- Automatic SAVE feature to ensure data integrity.
- Compatible with the Macintosh 128K, 512K and the XL.

For more info, call: **(203) 872-1024**  
To order by credit card, call toll free  
(7 days a week, 24 hrs. a day):

**1-800-437-5200, op. 229**

In Maryland, Call: **1-800-638-8890, op. 229**  
Or send check or money order to:

**Software Discoveries, Inc.**  
99 Crestwood Road, Tolland, CT 06084

Master Card/Visa Accepted.  
Introductory price effective until 4/1/86.  
Add \$5 for shipping and handling.  
CT residents please add 7.5% sales tax.

Record Holder is a trademark of Software Discoveries, Inc. Macintosh is a licensed trademark of Apple Computer, Inc. © Software Discoveries, Inc. 1985

Circle 435 on reader service card



# How Adding Macros Gives You More Speed, Less Mousing Around

**Tempo™ – the ultimate macro.**

**Fly through complex command sequences! Integrate programs automatically!  
Make Jazz sing, OverVUE swing, and Excel jump for joy!**

## Add the Power of Macros to Your Macintosh

**What's a macro?** A macro records any sequence of commands or keyboard entries once and then replays them all quickly forever after. A single keystroke will recall the most complex series of commands. And you can create up to 450 Tempo macros in every application.

**Go beyond simple record and playback.** You get powerful features that will enhance nearly every Macintosh program. Programs like Jazz™, Excel™, MacPublisher™, MacDraw™, Helix™, OverVUE™, File Vision™ and nearly every other™ designed for the Macintosh.

**Automate lengthy commands.** Just turn Tempo on while you per-

form a series of commands or key-strokes once, and *voilà!* you've made a macro. Format spreadsheets. Add boilerplate. Get creative! **Build vertical market applications** by integrating unrelated programs with Tempo. You can create a single macro to automatically move data between an unlimited number of Macintosh programs.

**Not just for the "power user."** Even if you only use Tempo for tasks like printing out a document with one command instead of three, you'll save time in nearly every Macintosh application.

## Fantastic Features Make the Difference!

**Pause for text entry.** Tempo will stop while replaying the series of commands so you can enter information. You can even *create your own dialog box!* That way, your Tempo macro can walk somebody through a program they've never used before.

**Pause for Time.** Either hours, minutes or seconds or until a given clock time, when the macro automatically starts up again. Works great

with modems. Or for reading lab data at regular intervals.

### Conditional Branching!

A Tempo macro will read a spreadsheet cell or a database entry or anything else you can copy into the clipboard, and *branch* to another macro based on the contents. It uses simple "greater-than" and "equal-to"-style Boolean logic, and actually lets you *program your programs.*

**"Live through the Launch."** One macro can launch a hundred programs. Now there's beauty!

You can take information from your accounting program, move it to a spreadsheet, compare it to last month's results, build a graph from it, and modem it to an analyst. All with a single keystroke!

**Real-Time Replay.** Play back at the same speed you recorded. You can create "self-running demos" for nearly any Macintosh software.

**Much, Much More!** We haven't even covered *editing* your macro after you've created it, using standard Copy, Cut and Paste functions. Or *suspending* or *cancelling* action in the middle of a macro. And much more still.

## Two Great Negative Reasons to Buy Tempo Now!

1. Tempo is *not copy-protected*, so you can easily install it in your hard drive.
2. If you're *not absolutely happy* with what Tempo can do for you and your Mac, return it for a complete refund. We'll guarantee your satisfaction!

Call

**1-800-255-5550 x425  
right now, today!**

Call us for the dealer nearest you, or you can order directly from us. For \$99, you get more macro power than a micro has ever had before.

**For 128K and 512K Macs!**



Affinity Microsystems, Ltd.  
1050 Walnut Street, Suite 125  
Boulder, CO 80302

**Only Tempo lets you...**

- ✓ Edit Your Macro
- ✓ Link Programs Together
- ✓ Pause for Text Entry
- ✓ Create Dialog Boxes
- ✓ Pause for Interval
- ✓ Branch with Logic
- ✓ Suspend Replay
- ✓ Cancel Replay
- ✓ Set Replay Speed
- ✓ Replay in Real Time



(continued from page 148)

typical business needs. This practicality can be seen in the way the LaserJet handles fonts. The printer can use plug-in ROM cartridges, each holding about seven fonts. For example, the most popular cartridge has versions of the Helvetica and Times Roman fonts: Helv 14-point bold; Tms Rmn 10-point standard, bold, and italic; and Tms Rmn 8-point standard. The cartridge also includes Line Printer 8-point in landscape (sideways) orientation. In addition, a 12-point Courier font is built into the printer. This set of fonts is suitable for many printing jobs. For example, if you were printing a manual, the Helv could be used for headlines, the Tms Rmn for body type, and the small Tms Rmn for footnotes.

The advantage of the plug-in font cartridge approach is its simplicity. In an office environment, where several people probably share the printer, there's no need for anyone to worry about downloading fonts into the printer and no possibility for confusion about which fonts are available. The

drawback of plug-in cartridges is that you are constrained to using only the fonts on a given cartridge. In addition, at \$225 or more each, the cartridges are expensive. The LaserJet Plus, however, has the capability to store fonts downloaded from a Macintosh.

### The Twin Jets

The LaserJet features 64K of RAM, of which 59K is available to you for creating graphic images. Like the LaserWriter, the LaserJet prints a maximum of eight pages per minute. At 300-dots-per-inch resolution, the LaserJet can print a graphic image of only about 5½ square inches. Larger images can be printed at lower resolutions.

The LaserJet Plus offers more flexibility than the LaserJet. The printer has 512K of RAM, of which 395K is available for printing larger graphic images (up to 32 square inches) and for storing up to 32 fonts, overlay forms such as tax sheets, or macros—strings of commands that you create in order to perform given tasks more easily. The LaserJet Plus also has rules, patterns, and eight shades of gray available, which are useful for creating printed forms.

### The Software Connection

How well do the raw capabilities of the two machines translate into actual usefulness for the Macintosh? The answer lies in the degree of software support for the LaserJet. Unfortunately, even though the LaserJet is connected to the Macintosh with a standard Imagewriter cable, you can't simply plug it in and produce printed output from an application like *MacWrite*. The reason is that most Macintosh applications don't have drivers to support the LaserJet's configuration parameters and PCL.

Thus, software is the bottleneck in the Macintosh/LaserJet connection, but some solutions are available. One is a package called *Laserstart*, which makes it possible for any Macintosh application to print to the LaserJet. *Laserstart* does a good job of producing *MacPaint* images, letting you choose between high or standard resolution.

*Laserstart* gives you two options for text. One option lets you print Macintosh screen fonts in either high or standard res-

(continues on page 152)

# Pascal for the Mac!

Only \$99.95

The MacLanguage Series™ Pascal compiler.

The first native code Pascal compiler for the Macintosh!



Pascal

- Creates double-clickable applications
- Creates desk accessories

Now used in Apple's Mac High School, Dartmouth College and several other major universities!

### Complete access to:

- Quickdraw
- Toolbox
- Operating System
- Printing
- Packages
- Serial Drivers
- Fixed-point Math
- 3D QuickDraw
- MacinTalk speech synthesis
- AppleTalk network
- HFS
- Built in compiler support for all SANE floating point types

### Versatile:

- Compiles Lisa Pascal programs
- Compiles MacPascal programs
- Integrate MDS assembly routines

### Works with:

- 512K Mac, Mac XL or Mac Plus
- Hard Disks including HD20
- Extended Memory
- HFS (Finder 5.x)

### Three Compilation Modes:

- Compile to Object code (MDS .Rel files)
- Compile to Assembly source code (MDS .Asm files)
- Check Syntax only of a program

### And now TML Systems Introduces:

### MacLanguage Series Development Tools

MacLanguage Series Linker/Librarian	\$59.95
MacLanguage Series Database Toolkit	\$89.95
MiniEdit for MacLanguage Series Pascal	\$19.95
MacExpress™ for Pascal from Alsoft	\$495.00

# TML Systems

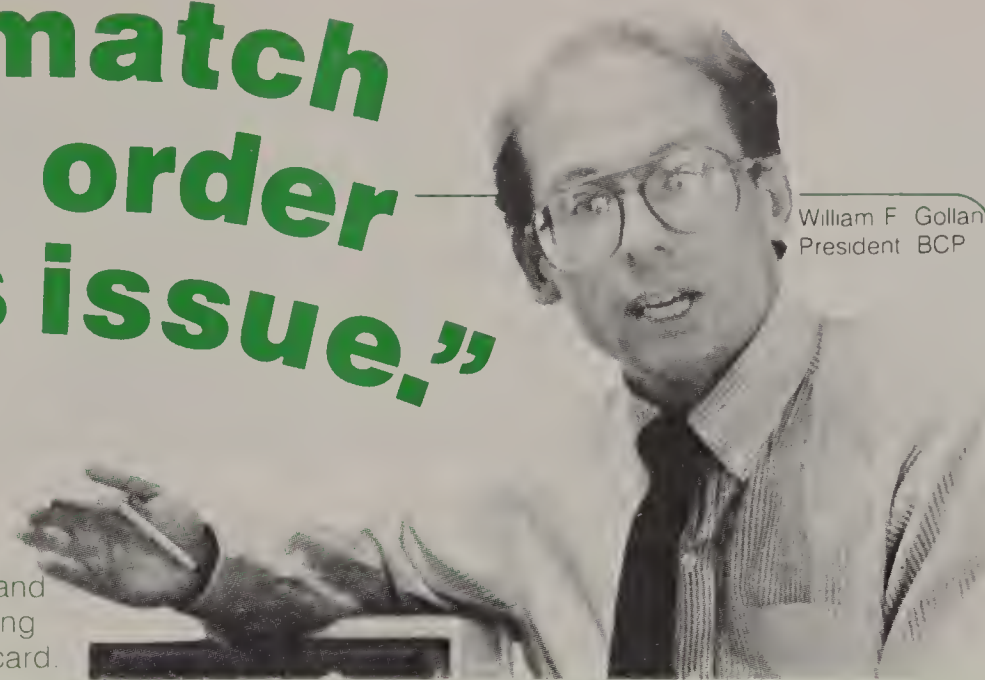
PO Box 361626, Melbourne, FL 32936 (305) 242-1873 Please enclose \$5.00 shipping and handling with all orders

Circle 471 on reader service card



# "We will match any mail order price in this issue."

We'll support, service and warranty everything we sell and stand behind it 100%. We won't charge you for shipping or handling, nor will we penalize you for using a credit card.



William F. Gollan  
President BCP

## PERIPHERALS & ACCESSORIES

<b>Apple*</b>		5 Mb. Removable	1289.95
All Products +		Cartridges	39.95
Laserwriter & Hard Disk		Head Cleaner	64.95
<b>Assimilation</b>			
All Products	CALL	<b>Joysticks</b>	<b>49.95</b>
<b>Curtis</b>		Video 7 Mouse Stk.	44.95
Diamond		<b>Kensington</b>	<b>63.95</b>
Emerald		A-B Box w/Cable	64.95
Ruby		Control Cnt.	9.95
Safe Strip		Dust Mac	9.95
<b>DC Hayes</b>		Dust Image 10"	9.95
Smartmodem 1200	379.95	Surge	34.95
Smartmodem 2400	594.95	Swivel	24.95
<b>Disks</b>		Starter Pac	56.95
BASF (5)	13.95	Printer Stand	19.95
Maxell (10)	24.95	Mouse Cleaner W/Pck.	19.95
Memorex (10)	28.95	Head Cleaner	22.95
Sony SS/DD (10)	CALL	Polarizing Fil.	34.95
Sony DS/DD (10)	CALL		
Verbatim (10)	29.95	<b>Microsoft</b>	159.95
Flip & File (40)	21.95	<b>Okidata</b>	<b>379.95</b>
<b>Ergotron</b>		192 Image	554.95
Mac Tilt	79.95	193 Image	339.95
<b>General Computer</b>		Pro 1200 W/SW	179.95
Hyper Drive 10 mb.	1249.95	<b>Thunderware</b>	
Hyper Drive 20 mb.	1749.95	Thunderscan V2.0	
<b>Iomega Bernoulli</b>			

## ACCOUNTING SOFTWARE

<b>Arrays</b>		<b>Peachtree</b>	
Home Accountant	54.95	AR/GL/AP (Ea.)	90.95
<b>Future Design</b>		<b>Softsync</b>	
Strickly Bus. G/L	244.95	Personal Acct.	59.95
<b>Monogram</b>		<b>State of Art</b>	<b>49.95</b>
Dollars & Cents	84.95	Electric Chk. B.	49.95
Forecast	44.95	<b>Symposium</b>	
<b>Palantir</b>		G/L	179.95
AR/GL/IC (Ea.)	79.95	<b>United</b>	<b>119.95</b>
		In House Acct	

## BUSINESS SOFTWARE

<b>Advanced Logic</b>		Spreadsh. Link	64.95
Mighty Mac	39.95	<b>Enterset</b>	
Spellworks	34.95	Quick Set V2	59.95
<b>Aegis</b>		Quick Word	37.95
Mac Mail Telecom	34.95	<b>Forethought</b>	
Zap/Invoice	59.95	Factfinder	89.95
House Keeper	42.95	Filemaker	112.95
<b>Affinity</b>		<b>Hayden</b>	
Tempo	74.95	Chart	64.95
<b>Alegro</b>		Ensemble	154.95
Personal Finance	34.95	Know it's There	39.95
Business Analy	34.95	Speller +	49.95
<b>Apple*</b>		<b>Human Edge</b>	
Mac Project	CALL	Mind Probe	34.95
<b>Brain Power</b>		<b>Living Videotext</b>	
Statview	104.95	Think Tank 128	79.95
Power Math	59.95	Think Tank 512	129.95
<b>Compuserve</b>		<b>Lotus</b>	
Starter Kit	19.95	JAZZ	Call
<b>Creighton</b>		<b>Megahaus</b>	
Mac Office	34.95	Megamerge	79.95
Mac Home	34.95	Megafile	109.95
Mac Spell +	59.95	Megaform	157.95
<b>Data Logica</b>		Megadesk	79.95
dMac III	CALL	<b>Microsoft</b>	
<b>Desktop</b>		Chart	77.95
1st Base	99.95	File	116.95
1st Port	49.95	Multiplan	116.95
<b>Dow Jones</b>		Word	116.95
Straight Talk	49.95	Excel	229.95
Market Mng +	119.95		

## BUSINESS SOFTWARE

<b>Mirage</b>		Bulk Mailer	CALL
Express (cp)	19.95	Legal Billing	CALL
Express (ncp)	34.95	<b>Sierra Or Line</b>	
<b>Odesta</b>		Mac One Write	139.95
Helix 512	219.95	<b>Software Publishing</b>	
<b>Open Systems</b>		PFS.File/Report	104.95
Accounting Pkgs.	CALL	<b>Softstyle</b>	
<b>Organizational</b>		Decision Map	89.95
Omnis 2	149.95	Epstart	34.95
Omnis 3	279.95	Laserstart	74.95
<b>Paladin</b>		Toshstart	29.95
Crunch 512	169.95	<b>StoneWare</b>	
<b>ProVue</b>		DB Master	109.95
OverVue V 2.0	154.95	<b>Telos</b>	
<b>Satori</b>		Filvision	104.95

## LANGUAGES & UTILITIES

<b>Batteries</b>		<b>Hippopotamus</b>	
Battery Pak	34.95	Hippo C Lev. 1	79.95
<b>Borland</b>		Hippo C Lev. 2	209.95
Sidekick	49.95	Hippo Lock	74.95
<b>Central Point</b>		<b>Microsoft</b>	
Copy II Mac	24.95	Basic	89.95
<b>Creative Solutions</b>		Logo	79.95
Mac Forth Lev. 1	84.95	Fortran	179.95
Mac Forth Lev. 2	134.95	<b>Nevins</b>	
<b>Expertelligence</b>		Turbo Charger 512	64.95
Exper Logo	84.95	<b>Pirates Harbor</b>	
Exper Lisp	279.95	Mac Crack	39.95
ExperOps 5 (need Lisp)	194.95		

## GRAPHICS & PUBLISHING

<b>Apple*</b>		Slide Show	39.95
Mac Draw	CALL	<b>Manhattan</b>	
<b>Axlon</b>		Ready-Set-Go 512 V 2.0	70.95
Art Portfolio	37.95	<b>Matrix</b>	
Mac Match	34.95	Images	29.95
<b>Enterset</b>		<b>Miles</b>	
Quick Paint	32.95	Mac Knife V. 1	23.95
<b>Hayden</b>		Mac Knife V. 2	29.95
Art Grabber w/Body	34.95	Mac the Knife V.3	CALL
DaVinci Bldg. Blks.	50.95	<b>Silicon Beach</b>	
DaVinci Comm. Int.	119.95	Accessory Pak # 1	27.95
DaVinci Houses	34.95	<b>Springboard</b>	
DaVinci Int.	34.95	Art ala Mac #1	29.95
DaVinci Landsc.	34.95	Art ala Mac #2	29.95
Video Works	64.95	<b>T/Maker</b>	
Home Design	49.95	Click Art	32.95
<b>IDDS</b>		Click Art Pub.	32.95
Mac Draft	159.95	Click Art Let.	32.95
<b>Magnum</b>		Click Art Eff.	32.95
McPic V. 1	34.95	ClickOn Wks.	49.95
McPic V. 2	34.95		

## EDUCATIONAL & PERSONAL

<b>ATI</b>		<b>First Byte</b>	
Mac Coach	49.95	Smooth Talker	64.95
Mac Multiplan	49.95	Kidtalk	44.95
Mac Value Pk.		Speller Bee	44.95
<b>Davidson Assoc.</b>		<b>Speed Reader II</b>	41.95
Mac Coach		Spell It	32.95
MasterType	119.95	Math Blaster	32.95
Think Tank		Word Attack	32.95
<b>Brain Power</b>		<b>Forethought</b>	<b>34.95</b>
Chipwits	31.95	Typing Intrigue	
Thinkfast	27.95		

## EDUCATIONAL & PERSONAL

<b>Great Wave</b>		Word Play	32.95
Concertware +	44.95	<b>Rubicon</b>	
Haleys Comet	24.95	Song Painter	37.95
Concertware + Key	134.95	Deja Vu	27.95
Concertware + Midi	69.95	Dinner at 8	39.95
Concertware + V1,V2,V2(Ea)	9.95	<b>Scarborough</b>	
<b>Hayden</b>		Make Millions	33.95
Musicworks	49.95	MasterType	33.95
Turbo Turtle	39.95	Run for the \$	33.95
SAT Combo	62.95	Tri-Pac (3)	72.95
Word Challenge	27.95	<b>Simon &amp; Schuster</b>	
<b>Mark of Unicon</b>		Typing Tutor III	39.95
Professional Composer	269.95	Great Paper Air.	29.95
<b>Palantir</b>		<b>Think Educational</b>	
Mactype	34.95	Mind Ov Mac	33.95
Math Flash	34.95	Mac Edge	33.95

## GAME SOFTWARE

<b>Activision</b>		<b>Mindscape</b>	
Champ. Baseball	25.95	Balance of Power	34.95
<b>Ann Arbor</b>		De Javu	39.95
Grid Wars	27.95	Racter	32.95
Lunar Explorer	34.95	Stephen King's Mist	29.95
<b>Aegis</b>		James Bond View K	29.95
Pyramid of Perl	29.95	Perfect Score SAT	52.95
Mac Challenge	29.95	<b>Origin Systems</b>	
<b>Blue Chip</b>		Exodus Ultima III	44.95
Barron	34.95	<b>PBI Software</b>	
Millionaire	34.95	Feathers & Space	26.95
Squire	34.95	Fokker Triplane	41.95
Tycoon	34.95	Strategic Conquest	34.95
<b>Broderbund</b>		<b>Penguin</b>	
Cyborg	29.95	Pensate	29.95
Lode Runner	29.95	The Owest	29.95
<b>Creighton</b>		Transylvania	29.95
Mac Command	23.95	Xyphus	29.95
<b>Epyx</b>		Crimson Crown	29.95
Rogue	29.95	<b>Priority</b>	
<b>General</b>		Forbidden Owest	32.95
Ground Zero	29.95	Gateway	34.95
<b>Hayden</b>		<b>Sierra On Line</b>	
Holy Grail	34.95	Champ Boxing	29.95
Masterpieces	29.95	Frogger	29.95
Sargon III	34.95	Ultima II	39.95
Perplex	29.95	<b>Silicon Beach</b>	
<b>Infocom</b>		Airborne	26.95
Wishbringer	28.95	Enchanted Scepters	26.95
Cutthroats	28.95	<b>Sir Tech</b>	
Deadline	34.95	Wizardry I	39.95
Enchanter	28.95	<b>Softlife</b>	
Hitchhiker's G	28.95	Mac Slots	32.95
Infidel	30.95	<b>Spectrum</b>	
Mind F. Voyaging	30.95	Gato	33.95
Planetfall	28.95	Tellstar Lev. 1	33.95
Seastalker	28.95	Orbiter	33.95
Sorcerer	30.95	<b>Spinnaker/Telarium</b>	
Starcross	30.95	Amazon	32.95
Suspect	30.95	Dragon World	32.95
Suspended	30.95	Fahrenheit 451	32.95
Witness	28.95	R with Rama	32.95
Zork I	28.95	<b>Synapse</b>	
Zork II, III (ea)	30.95	Essex	29.95
<b>Magnum</b>		Mindwheel	29.95
Gypsy	30.95	Brimstone	29.95
<b>Mark of Unicon</b>		<b>Unicorn</b>	
Mouse Stampede	27.95	Futura	29.95
<b>Microsoft</b>		Utopia	29.95
Entrepreneur	34.95	Mac Robot	34.95
Flight Simulator	CALL	Animal Kingdom	32.95
<b>Miles Computing</b>		<b>Valley</b>	
Mac Attack	32.95	Monkey Business	25.95
Strike Mission	32.95	Delta Patrol	25.95
Fusillade	29.95	<b>Vindex</b>	
Mac Wars	32.95	Mac Checkers	33.95
Overloads	32.95	Mac Gammon	33.95
		Mac Vegas	39.95

MONTHLY SPECIAL

PRINTER RIBBON

6 Pack Special

	Retail	BCP
* Imagewriter	49.95	24.95
* Epson LX80	74.95	34.95
* Epson FX80/85	49.95	24.95
* Epson FX100/185	74.95	34.95
* Okidata 192 Mac	79.95	39.95
* Okidata 92 Mac	29.95	15.95

\* Imagewriter Color Pac (Br, Pur, Bl, Gr, Rd, Yl) 59.95 29.95  
+ 2.50 Shipping



**BUSINESS COMPUTERS**  
OF PETERBOROUGH  
Gollan Co., Inc.

766 RT 101 WEST • PO BOX 389 • PETERBOROUGH, NH 03458

Apple N/A to matches  
Price and availability subject to change

**FREE SHIPPING**

CONTINENTAL USA/UPS ONLY  
APO/FPO WELCOME MC/VISA

**CUSTOMER SERVICE/**  
**ORDER STATUS**  
603-924-9406

**ORDERS ONLY 800-845-3003**

Circle 453 on reader service card



(continued from page 150)

olution, just as with the Imagewriter (see "Printing Options"). The standard output is printed at 75 dots per inch (each dot is actually a tiny 4- by 4-dot cluster of the LaserJet's 300-dots-per-inch dots), which closely matches the 72-dots-per-inch resolution of the Macintosh screen. High-resolution output is printed at 150 dots per inch.

The other text option is to use the LaserJet's fonts rather than the Macintosh's. Here the problem is word spacing, which tends to be somewhat uneven for proportionally spaced type due to the difficulty of translating the spacing on the Macintosh screen to that of the LaserJet's printed output. For the best results, choose the LaserJet font that most closely matches the Macintosh font you are using, such as Tms Rmn for New York. At present *Laserstart* can't utilize the advanced features of the LaserJet Plus, such as patterns and shaded rules.

Another utility program, *ProPrint*, can't print graphics at all but does a better job of producing consistent word spacing

(continues on page 154)

## Chapter 1 - Loomings

Call me Ishmael. Some years ago--never mind how long precisely--having little or no money in my purse, and nothing in particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen, and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses...

## Chapter 1 - Loomings

Call me Ishmael. Some years ago--never mind how long precisely--having little or no money in my purse, and nothing in particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen, and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses...

## Printing Options

The text on the top shows Laserstart's ability to print Macintosh fonts in high resolution. The chapter title is New York bold, while the body of the text is Geneva. The LaserJet's own fonts provide high-quality printed output, as shown in the bottom sample. Word spacing, however, is irregular.

New Release: 2.0

BUSINESS • SCIENCE • EDUCATION

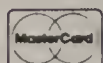
A complete statistical package for only:

# STATFAST™ \$119

A Powerful Tool for Data Analysis and Forecasting

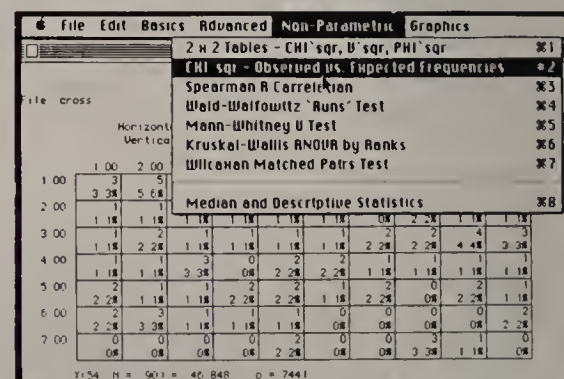
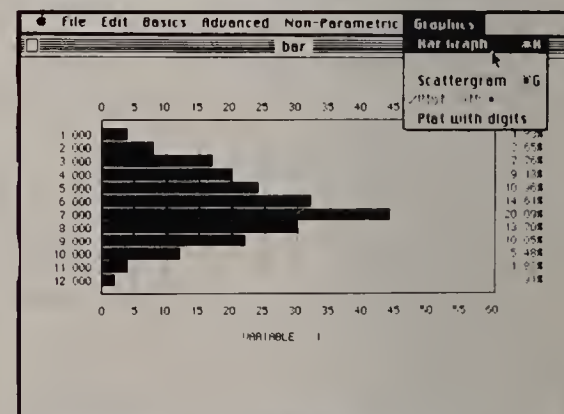
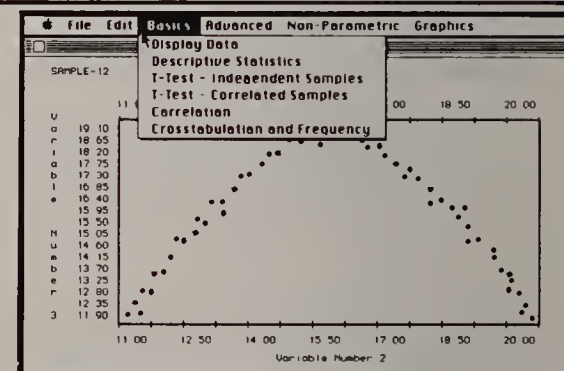
- Very easy to use, even for novices. No commands to memorize
- Speed is a crucial issue in statistics: STATFAST is a professionally designed superfast stand-alone application (it **completes in seconds what takes BASIC or Pascal program 20 minutes or more**)
- Unlimited size of data files!
- Descriptive Statistics, t-tests (indep./dep. samples), Correlations, Crosstabulation, Frequency, 10 Nonparametric Statistics, Multi-factor Analysis of Variance/Covariance (up to 5 factors [including a covariate], Repeated Measures, Unbalanced Designs, Contrasts), Multiple Regression (up to 50 predictors, Durbin-Watson statistic, autocorrelation of residuals, forecasting sub-program, plots of residuals, and more), Significance Tests, and much more
- Double precision calculations
- User defined (multiple) conditional selection of sub-sets of cases, various ways of treating missing data
- Two flexible Data Editors (command- and screen-oriented), easy entering/editing, "copying", "pasting" of data, complex (conditional) transformations, sorting, and more
- Can also access files created by spreadsheets (e.g. Multiplan, Jazz), data bases, and from mainframes
- Graphics, clear comprehensive output, can be "pasted" into MacWrite or MacPaint documents
- Clear, comprehensive manual, with step by step examples
- Requires 128k or 512k Macintosh®, external disk drive or hard disk supported but not required

To order send check or money order for \$119 (plus \$5.00 shipping and handling) to:



**StatSoft™**

2832 East 10th Street, Suite 4, Tulsa, OK 74104. (918) 583-4149



Circle 225 on reader service card



**Your Hardware and Software Source**

**Save Up To 60%**

★ **NOW Even Lower Prices** ★

★ **NO CHARGE FOR VISA AND MASTERCARD** ★

★ **OUR CUSTOMERS HAVE RATED US #1 IN PRICE & SERVICE** ★

★ **CORPORATE & INSTITUTIONAL PURCHASE ORDERS ACCEPTED** ★

★ **CALL FOR DETAILS.** ★

**Low Prices Are BORN Here  
 RAISED Elsewhere**

**- Just Ask Our Competitors!!! -**

**FREE**  
 AIR EXPRESS SHIPPING  
 See Details Below

**SOFTWARE**

**DATA BASE MANAGERS**

DB Master	\$109
Fact Finder	72
File Maker	98
File Vision	99
First Base	99
First Merge	49
Front Desk	77
I Know Its Here Somewhere	35
Mac Lion	189
MegaFile	115
MegaForm	167
MegaMerge	75
Microsoft File	112
Omnis III	245
Overvue 2.0	146
Think Tank	74
Think Tank 512	119

**LANGUAGES**

Basic 2.0	\$ 88
Consulair C w/F.P.	259
Consulair C w/MDS	435
Consulair Linker/Librarian	59
ExperLisp	245
Experlogo	76
Microsoft Fortran	175
Microsoft Logo	74

**MONEY MANAGEMENT**

Accounting Portfolio	\$ 32
Dollars & Sense	79
Dollars & Sense Forecast Module	39
Mac Home Accountant	79
Electric Checkbook	43

**WORD PROCESSORS**

Hayden Speller	\$ 45
Microsoft Word	112
Mac Spell Plus	Call

**GRAPHICS**

Accessory Pack 1	\$ 23
Card Shop	22
Click Art	29
Color Print	28
Color Chart	58
Da Vinci	28
Icon Library	15
Icon Switcher	15
Mac Draft	149
Mac Pic #1 & 2	29
Mac The Knife	22
Mac The Knife II	29
Ready Set Go	Call
Slide Show Magician	35
VideoWorks	57

**UTILITIES**

Concertware Plus	\$ 36
Copy II Mac	19
Desk Organizer	55
Mac Home	26
Mac Labeler	24
Mac Office	26
Music Works	45
My Office	76
Pro Print w/cable	57
Quickdisk	18
Sidekick	43
Smooth Talker	51
Turbo Charger	55

**SPREADSHEETS**

Chart	\$ 73
Click On	46
Crunch	169
Microsoft Excel	232
Multiplan	112

**INTEGRATED SOFTWARE**

Ensemble	\$146
Helix	222
Jazz	Call

**TRAINING**

Mastertype	\$ 29
Mind Prober	26
Typing Intrigue	26
Typing Tutor III	34

**ACCOUNTING**

Mac One Write	\$139
Palantir G/L	75
Palantir A/P	75
Palantir A/R	75
Peachtree G/L	85
Peachtree A/R	85
Peachtree A/P	85
Rags to Riches G/L	102
Rags to Riches A/P	102
Rags to Riches A/R	102
Rags to Riches-3 Pak (G/L, A/P, A/R)	255

**COMMUNICATIONS**

CompuServe Starter Kit	\$ 17
Dow Jones Straight Talk	45
Smartcom II	84

**ACCESSORIES**

Flip & File 3 1/2"	\$ 12
Imageware Printer Carrying Case	40
Imageware Wide Carriage Printer Case	49
Katimar Teak Diskette Box	15
Maccessories Control Center	59
Maccessories Diskette Box	20
Maccessories External Drive Cover	8
Maccessories Head Cleaning Kit	19
Maccessories Mac Dust Cover	9
Maccessories Mouse Cleaning Kit	17
Maccessories Printer Cover	9
Maccessories Printer Stand	16
Maccessories Starter Pack w Swivel/Tilt	55
Maccessories Surge Suppressor	34
Maccessories Swivel/Tilt Stand	21
Mac Enhancer	157
MacTote Carrying Case	59
MacVision	168
MousPad (By Moustrak)	7
Printer Ribbon	6
The Easel	12

**DISKETTES**

MAXELL Disks (10 Pack)	\$ 21
SONY Disks (10 Pack)	21

**HARDWARE**

**MODEMS**

Anchor Automation Anchor Express	\$235
Anchor Automation Mark XII	229
Hayes Smartmodem 300 Baud	129
Hayes Smartmodem 1200 Baud	389
Hayes Smartmodem 2400 Baud	589
Kensington Portable Modem	92
Prometheus Promodem 1200 (MAC)	335
US Robotics Password 1200	189

**DISK DRIVES**

Bernoulli Box 5 Megabyte	\$1319
Habadisk Drive	279

**PRINTERS**

Apple Imagewriter (Wide)	Call
Brother HR-15XL	\$ 329
Diablo D-25	549
Diablo 630 API	1484
Epson Printers	Call
NEC 2010	619
NEC 3510	989
NEC 8810	1329
Okidata Printers	Call
Panasonic 1091	Call
Panasonic 1092	Call
Panasonic 1093	Call
Star Micronics SG-10	219

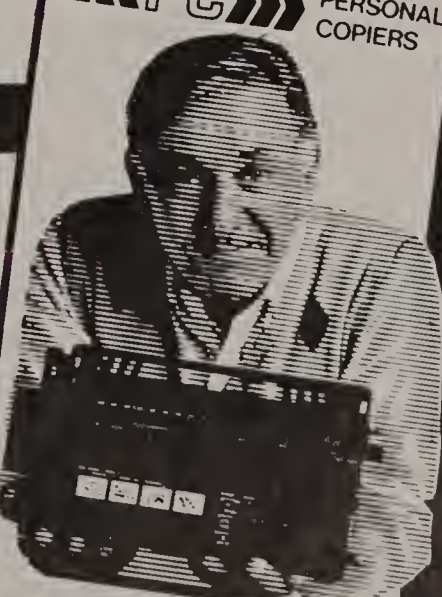
**PRINTERS (Contd.)**

Star Micronics Printers	Call
Silver Reed EXP500 (Serial)	279
Silver Reed EXP550 (Serial)	389
Silver Reed EXP770 (Serial)	699
Toshiba 1340 Parallel	439
Toshiba 1340 Serial	439
Toshiba 341 Parallel	819
Toshiba 341 Parallel & Serial	869
Toshiba 351 Parallel & Serial	969

**COMPUTERS**

Apple Macintosh 512K	Call
----------------------	------

**Canon**  
**«PC» PERSONAL COPIERS**



Canon PC-10 ..... \$ 509  
 Canon PC-14 ..... \$ 649  
 Canon PC-20 ..... 719  
 Canon PC-25 ..... 939

**No Charge for VISA and Mastercard**  
 • Free Air applies ONLY to orders up to 10 lbs. You Pay The Ground - We Pay the Air  
 • Shipping and Handling Add \$6.00  
 • Personal and Company Checks Will Delay Shipping 2 weeks  
 • Prices & Availability Subject to Change Without Notice  
 • Due to Copyright Laws No Returns on Software Purchases  
 • Add 2% for C.O.D. Orders  
**We Do Not Guarantee Machine Compatibility**

• Order-Line Hours: Mon-Fri. 8:30-5:30 Saturday 9:00-1:00  
 • Order Processing: 602-224-9345  
 10:00 a.m. - 3:00 p.m. Monday - Friday

Mailing Address:  
 2222 East Indian School Road  
 Phoenix, Arizona 85016



(continued from page 152)

with the LaserJet's proportionally spaced fonts. Unlike *Laserstart*, *ProPrint* produces full-justified text. On the other hand, *ProPrint* limits you to the default font of whatever font cartridge is plugged into the printer, which defeats the purpose of having multiple fonts.

### The Bottom Line

Taken as a whole, the availability of LaserJet printing utilities is a promising start, but it's not yet a complete answer for those who want to really put the LaserJet to work with the Macintosh. The real answer will be for software developers to add LaserJet drivers to their programs.

The bottom line on the LaserJet is that while it lacks the superior graphics and type-manipulating capabilities of the LaserWriter, it's a machine well suited for most typical office document and publishing applications. As of this writing, the lack of printer drivers makes the LaserJet unable to perform up to its potential with the Macintosh. But this hurdle will probably be cleared during the coming months as software developers add LaserJet drivers to their programs. — *Ted Nace*

*LaserJet, LaserJet Plus*  
Hewlett-Packard  
Personal Computer Group  
11000 Wolfe Rd.  
Cupertino, CA 95014  
800/367-4772

List price: *LaserJet* \$2995, *LaserJet Plus* \$3995, *LaserJet Plus upgrade kit* \$1995

*Laserstart*  
SoftStyle  
7192 Kalaniana'ole Hwy. #205  
Honolulu, HI 96825  
808/396-6368  
List price: \$95 including cable

*ProPrint*  
Creighton Development Corp.  
16 Hughes St. #C-100  
Irvine, CA 92714  
714/472-0488  
List price: \$99 including cable □

## RUN THOUSANDS OF APPLE II PROGRAMS ON YOUR MAC WITH



# II in a MAC™



### FEATURES

- a) Supports Hi-Res, Lo-Res Graphics & all text modes.
- b) Supports 80 Column & uses full MAC screen.
- c) Supports joystick with modifyable axis.
- d) Emulates full 4 drive Apple system.
- e) Complete Apple RAM disk emulation.
- f) Communications disk to transfer software from Apple or download from BBS

Run ProDOS or DOS3.3 software on your 512K MAC without modification.

**Micro-W.**  
DISTRIBUTING, INC

1342B Route 23  
Butler, New Jersey 07405

Dealer  
and  
Distributor  
Inquiries  
Invited



Call 201-838-9027 to Order

### FEATURES

- g) Program the MAC in Applesoft, Integer, & standard Apple machine language.
- h) Access printer & modem with standard Apple software.
- i) Supports Lang. card, Clock, Keyboard buffer & std 68000 system calls.
- j) Comes with complete emulation and system master software.
- k) Help screens available.

Circle 472 on reader service card



## LIONHEART

### BUSINESS & STATISTICAL SOFTWARE

Explanatory books with professional compiled software; the new standard for statistical use. The influential Seybold Report on Professional Computing has this to say about Lionheart "... our sentimental favorite because of its pragmatic approach to the basic statistical concepts... The thinking is that the computer merely facilitates the calculations; the important thing is to be able to formulate a problem correctly and to determine what type of analysis will be most valuable."

- BUSINESS STATISTICS ..... \$145
- EXPERIMENTAL STATISTICS ..... 145
- MULTIVARIATE ANALYSIS ..... 150
- QUALITY CONTROL & INDUSTRIAL EXPERIMENTS ..... 125
- FORECASTING AND TIME-SERIES ..... 145
- SALES AND MARKET FORECASTING ... 145
- DECISION ANALYSIS TECHNIQUES .... 110
- LINEAR & NON-LINEAR PROGRAMMING ..... 95
- PERT & CRITICAL PATH TECHNIQUES .. 95
- MONTE CARLO SIMULATION ..... 125
- OPTIMIZATION ..... 110

PC/MS-DOS, Amiga, Macintosh, some CP/M

VISA, MasterCard, AMEX, Check

P.O. Box 379, ALBURG, VT 05440  
(514) 933-4918

Circle 238 on reader service card

3 1/2"  
**maxell®**

### BLANKS

SS/DD

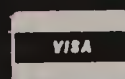
**\$1.60**

### DUPLICATED

SS/DD

**\$1.97**

Prices based on quantities of 500



C.O.D.



1-800 222-0490

201- 462-7628 in N.J.

**MEGAsoft**

PO Box 1143, Freehold, N.J. 07728

Circle 414 on reader service card





# Financial Software



## Loan Amortization

AmPack is the most powerful, easy to use, amortization package available for Personal Computers. Designed by professionals for professionals.

- Imputed Interest
- Variable Rate Loans
- Graduated Payments
- Principal Only Payments
- Skipped Payments
- Negative Amortization
- Balloon Payments
- Customized Reports
- What if Analysis
- Transfer to Excel & Multiplan
- Odd day Interest
- 360 or 365 Day Interest

128K AmPack **\$75**  
512K AmPack **\$99**

## Financial Planning

FinPlan-10 is an integrated 10-year Tax Planning and Cash Flow Report created and used by Financial Planning Professionals. Simply input the data and the FinPlan-10 Template for Excel does the rest.

- Customized Income/Expense Categories
- Net Worth Statements
- Customized State Tax Planning
- Joint and Single Taxpayers
- Income Averaging
- Alternative Minimum Tax
- Self Employment Tax
- Calculates Marginal and Average Rates
- Variable Tax Rate Schedules
- Automatic Calculations including Limitations and Exclusions
- Comprehensive Minnesota Tax Package

Requires Excel and 512K Macintosh™  
**\$195**

For your copy or more information Call or Write:

### Softflair, Inc.

2100 West 53rd St. • Minneapolis, MN 55419  
(612) 924-3400

Dealer Inquires Welcome

Quantity Discounts Available. We accept VISA, MC, checks, and C.O.D. orders. Add \$5 for shipping and handling. MN residents add 6% sales tax. Multiplan and Excel are trademarks of Microsoft Corp.

Circle 412 on reader service card



## 512K Upgrades

- 3 Year Limited Warranty  
(Extended Warranties Available)
- No Soldering of RAMs
- Fast Service  
(Overnight if desired)

We do not solder or desolder any of your RAM chips when we do your 512K upgrade. Because your board is not heated 512 times we can offer the best warranty available. Our upgrade uses an integrated circuit board that is soldered into seven empty holes in Mac's logic board. This means that there are no jumper wires exposed and that only a single trace needs to be cut. The RAMs are attached by use of a special socket that connects to the existing pins. 1.5MB upgrades are also available.

### How to Place Your Order

We accept Master/Card, Visa, American Express, COD and Purchase orders from established accounts. All shipping is done by UPS Second Day Air. No extra shipping charge for foreign customers.

Call for more information:  
**(800) 851-2753**

In IL (309) 833-1157 collect

**MACohm Projects**  
129 N. Randolph  
MAComb, IL 61455

## 512K Kit

No desoldering or  
soldering of RAMS!

If you enjoy the satisfaction of doing things yourself, then our Upgrade kit might be just what you are looking for.

### What You Get

Our kit comes with 256K DRAMS, special sockets, integrated circuit board, Guided Tour Video Tape, a MacOpener Tool Kit, Soldering-Desoldering Tools, instructions, and our support for completing your UPGRADE.

### Comments

It was not necessary to desolder 256 chip pins, clean them, and resolder in sockets. You have a great idea in your upgrade kit.  
Edward Croop

The MACohm update is the best documented and supported product I have ever purchased. It is nice to know that good companies are beginning to emerge in the computer after-market. Thanks again and I'll be back.  
Robert L. Harris

Instructions were excellent— as good as I've ever read. Jim Ackil

Much better than I had expected (and I expected it to be very good).  
Mark Cochran

Light years ahead of any other upgrades for the VIDEO, book, materials, and tools. Martin Wixted

Directions were specific. Your video prepared me well—practice made it easy. S. Hindes

Circle 295 on reader service card

Go for the



**SuperMAX™. The MAXimum in Surge Suppression, Noise Filtration, Under Voltage detection and protection, PLUS Telecommunication Line protection.**

• Status Lights

• Reset Switch

• Made in U.S.A.

• Exceeds IEEE 587

• Quality Power Line  
AND Data Line  
Protection

• FIVE Year Warranty



**PANAMAX**

Toll Free 1-800-472-5555  
In California 415-472-5547  
150 Mitchell Boulevard,  
San Rafael, CA 94903

Circle 450 on reader service card

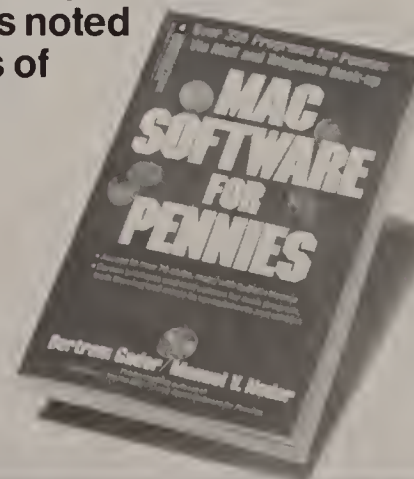
# FOR PENNIES! A WEALTH OF PUBLIC DOMAIN SOFTWARE FOR MAC USERS

## MAC SOFTWARE FOR PENNIES

Bertram Gader and  
Manuel V. Nodar

A complete, comprehensive, up-to-date directory of over 350 programs, free or at minimal cost—the best available in the public domain.

• Full screen printouts and complete instructions for every program • Names and addresses of over 70 Macintosh users groups • Detailed information on the 15 clubs noted for their extensive libraries of public domain software • Sources for software available by telephone hook-up or mail



**WARNER BOOKS**

A Warner Communications Company

To order, send check or money order for \$14.20 (includes postage & handling) to: Dept PAA 0-446-38285-X (W), Warner Books, 666 Fifth Avenue, New York, NY 10103. Allow 4 to 6 weeks for delivery



## BUY HARDWARE AND SOFTWARE AT WHOLESALE + 8%, AND GET 14-30 DAY SOFTWARE RENTALS<sup>†</sup>...

Every few months, The NETWORK saves its members more than \$24,000,000 and processes over 100,000 orders.

### The nation's largest corporations depend on PC NETWORK!

On our corporate roster are some of the nation's largest financial industrial and professional concerns *including some of the most important names in the computer industry:*

<b>AT&amp;T</b>	General Motors
Barclays Bank	Gillette
Bell & Howell	<b>Hewlett Packard</b>
Citibank	Hughes Aircraft
Columbia University	<b>IBM</b>
<b>Data General</b>	<b>ITT</b>
Exxon	Kodak
Farm Bureau Insurance	United Nations
Frontier Airlines	<b>University of Illinois</b>
General Mills	Yale University
General Electric	Veteran's Administration

plus thousands of satisfied consulting firms, small businesses, user groups, municipalities, government agencies and value-wise individuals ACROSS THE NATION! Their buyers know that purchasing or renting from PC NETWORK saves them time, money and trouble. They also count on us for product evaluation, professional consultation and the broadest spectrum of products and brands around.

**CALL TOLL FREE  
1-800-621-S-A-V-E**

(Orders—Membership and Advice!)

In Illinois call (312) 280-0002

Your Membership Validation Number **U736**

You can validate your membership number and, if you wish, place your first money-saving order over the phone by using your VISA, MASTERCARD or AMERICAN EXPRESS. Our knowledgeable sales consultants are on duty Mon.-Fri. 8:00 AM to 7:00 PM, SAT. 9:00 AM to 5:00 PM CST.

**PERSONAL COMPUTER NETWORK**

320 West Ohio

Chicago, Illinois 60610

Call now...Join the PC NETWORK and start saving today!

Customer Service and Order Status (312) 280-1567

8:30 AM to 4:30 PM, Mon.-Fri. CST



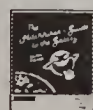
\*Members pay 8% above this wholesale price plus shipping.

**INFOCOM**

Available for  
Apple II & Mac



\$20.00\*



\$20.00\*



\$22.00\*

Living Videotext

**THINKTANK™**

128K Version . . . \$65.00\*

512K Version . . . 130.00\*

**MONOGRAM**

DOLLARS and SENSE

for the MAC

**\$70.00\***

**ProVUE™**

OverVUE

**\$130.00\***

**HAYDEN**

Videoworks

or

Musicworks

**\$50.00\***

**SOFTech**  
MICROSYSTEMS

MAC ADVANTAGE:  
UCSD Pascal

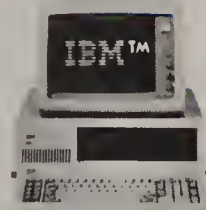
**\$37.00\***

**ORGANIZATIONAL  
SOFTWARE**

**OMNIS 3™**

**\$225.00\***

### IBM PC HARD DISK SYSTEM



IBM PC w/256K  
Floppy Drive Controller  
1 Double Sided Double  
Density Disk Drive  
Half Height 10MB  
Disk Subsystem

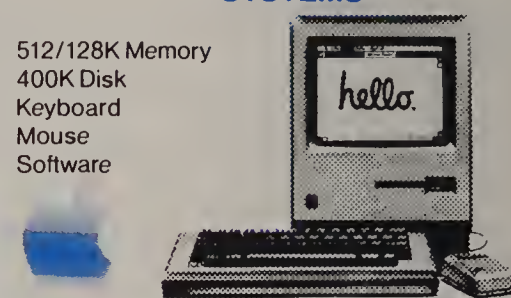
CALL FOR  
LATEST IBM  
ANNOUNCEMENTS

CUSTOM  
CONFIGURATIONS  
WELCOME

**\$1,685.00\***

### MACINTOSH SYSTEMS

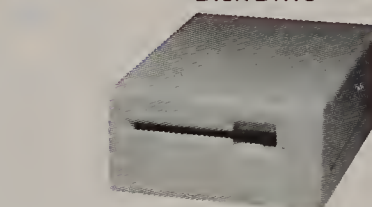
512/128K Memory  
400K Disk  
Keyboard  
Mouse  
Software



**Price Too Low To Print!!!**

### APPLE MACINTOSH

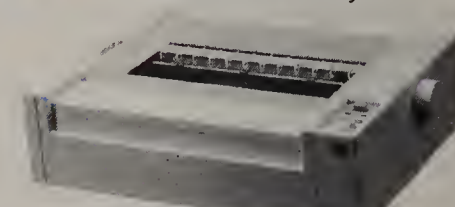
400KB EXTERNAL  
Disk Drive



**\$349.95\***

### APPLE 15" WIDE IMAGEWRITER

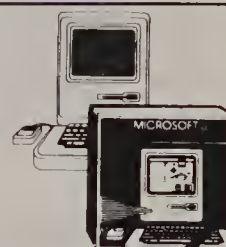
with MAC Accessory Kit



**\$485.00\***

### MICROSOFT®

(At Unheard of Prices!!!)

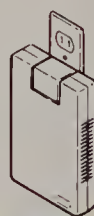


Multiplan, File or Word . . . . . \$102.00\*

BASIC . . . . . 79.00\*

Chart. . . . . 66.00\*

### PRENTICE® POFCOM



1200BPS Fully MAC Compatible!  
Includes **Free** Dow Jones  
Straight Talk Terminal Software  
and Time on News Service

**\$245.00\***

### APPLE

**MAC TERMINAL**  
Mac's Most Popular  
Communication Package

**\$65.00\***

**MAC DRAW**  
Apple's Most Complete  
Design Package  
for the Mac

**\$125.00\***

3 1/2" SSDD  
**\$15.95\***

Box 10  
Free Flip  
and File Case

### DISKETTES

Guaranteed  
for Life  
Brand name  
diskettes  
available in  
Boxes of 10

**CENTRAL POINT  
Software**  
Copy II Mac

**\$20.00\***

**BORLAND  
INTERNATIONAL**

Sidekick

**\$37.50\***

**First Byte®**

Smooth Talker

**\$47.00\***

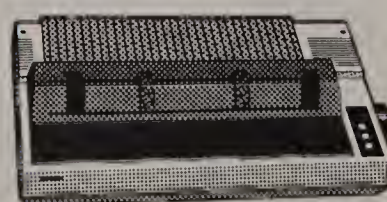
**CAI**

Creighton Development  
Mac Spell +

**\$44.50\***

### EPSON® PRINTERS

Unbelievable Low Prices!!!



LX-80	80COL/100CPS . .	\$199.00*
FX-85	80COL/160CPS . .	299.00*
FX-286	132COL/200CPS . .	459.00*
LQ-1500	132COL/200CPS . .	799.00*

**MILES  
Computing**

**HARRIER  
STRIKE MISSION**  
Jet Simulator for Mac

Each **\$22.00\***

**GATO**

WWII Submarine  
Simulation for The Mac

**\$318.00\***

**MICROSOFT.  
EXCEL**

**\$208.00\***

Wholesale Prices Change Rapidly...if you ever see a lower price advertised anywhere please call! You will find the Network's Price will always be the best!

New  
Lower  
Prices!



(Signature required to validate membership) Copyright © 1985, PC NETWORK INC.





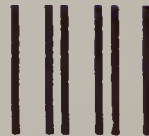
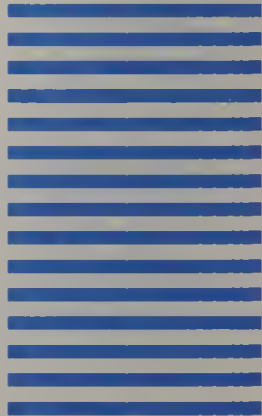
NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY CARD**

First Class      Permit No. 14823      Chicago, IL

POSTAGE WILL BE PAID BY ADDRESSEE

**PC NETWORK**  
320 West Ohio  
Chicago, Illinois 60610



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY CARD**

First Class      Permit No. 14823      Chicago, IL

POSTAGE WILL BE PAID BY ADDRESSEE

**PC NETWORK**  
320 West Ohio  
Chicago, Illinois 60610





## ...AS A PC NETWORK MEMBER ONLY!

Listed below are just a few of the over 30,000 products available at our EVERYDAY LOW PRICES!

### GAMES & EDUCATIONAL

(Please add \$1 shipping and handling for each title ordered from below.)

	Wholesale		Wholesale
Aegis Mac Challenger	\$ 22.00*	Magnum The Slide Show Magician	\$ 31.00*
Axlon Art Portfolio, or Card Shoppe	31.00*	Mark of The Unicorn Mouse Stampede	19.00*
Bluechip Baron, Millionaire, Tycoon	26.00*	Miles Computing Mac the Knife	18.00*
CBS Software Murder by the Dozen	20.97*	Miles Computing Mac Attack	23.00*
Expertelligence ExperLogo	65.00*	Palantir Mac Type	23.50*
1st Byte Smooth Talker	47.00*	Penguin Graphics Magician—Mac Only	28.97*
Great Wave Concertware Plus	33.00*	Penguin Pensate or Xyphus	20.00*
Hayden Videoworks, or Musicworks	50.00*	Penguin Transylvania	20.00*
Hayden Sargon III	25.75*	Priority Software Forbidden Quest	21.00*
Hayden DaVinci—Houses, Interiors or Landscapes	24.75*	Scarborough Mastertype	26.50*
Hayden Art Grabber	26.00*	Sierra On-Line Championship Boxing	20.50*
Infocom Deadline, Suspended	24.00*	Sierra On-Line Frogger	20.00*
Infocom Enchanter, Planet Fall, Cutthroats	20.00*	Silicon Beach Software Airborne!	18.25*
Infocom Zork II, Zork III	22.00*	Simon & Schuster Typing Tutor III	28.25*
Infocom Zork I, Witness	20.00*	Telarium Amazon, Dragon World, Fahrenheit 451	20.95*
Infocom Suspect, Infidel, Sorcerer	22.00*	T/Maker Click Art	25.00*
Infocom Hitchhiker's Guide, Seastalker	20.00*	Vldex Fun Pack	19.77*
Magnum McPic! Volume 1 or 2	26.00*	Vldex Mac Gammon & Cribbage	25.17*

### BUSINESS SOFTWARE

(Please add \$2.50 shipping and handling for each title ordered from below.)

Advanced Logic Systems Mighty Mac	\$ 31.00*	Manhattan Graphics Ready Set Go	\$ 50.00*
Apple MacTerminal	65.00*	Megahaus Megafiler	85.00*
Apple MacPascal	85.00*	Microsoft Basic	79.00*
Arrays Home Accountant	65.00*	Microsoft Chart	66.00*
Borland Sidekick for Mac	37.50*	Microsoft Excel	208.00*
Boston Software Mac Publisher	65.00*	Microsoft File	102.00*
Creative Solutions MacForth Level I	66.00*	Microsoft Multiplan	102.00*
Creative Solutions MacForth Level II	110.00*	Microsoft Word	102.00*
Desktop Software 1st Base	90.00*	Odesta Helix Reg's 512 K Mac	200.00*
Dillithium PC to MAC & Back w/cables	90.00*	Organizational OMNIS 3	225.00*
Dow Jones Software Straighttalk	40.00*	Paladin Crunch	147.00*
Dow Jones Software Market Manager	103.50*	Peachtree Software G/L, A/P, A/R	77.00*
Dow Jones Software Spreadsheet Link	45.00*	Each Only	
Funsoft Macasm	60.00*	Provue Overvue	130.00*
Haba Habadex	40.00*	Rio Grande Software Softmaker II	85.00*
Hayden I Know It's here somewhere	30.50*	Sierra Online Mac One Write	120.00*
Harvard MacManager	29.95*	Soft Design Time Base	75.00*
Hippopotamus Software Hippo-C Level 1	67.00*	Softtech Microsystems UCSD Pascal	37.00*
Hippopotamus Software Hippo-C Level 2	192.00*	Software Publishing PFS: File, or Report	68.00*
Layered Software Front Desk	73.00*	Stoneware DB Master	95.00*
Living Videotext Think•Tank (128K VER.)	65.00*	Telos Software Filevision	87.50*
Main Street Main Street Filer	67.00*	Tronix/Monogram Dollars & Sense	70.00*

### HARDWARE

(Add 2% to the member price for each item for shipping and handling.)

#### COMPLETE SYSTEMS

Apple Macintosh Base Systems	CALL
Apple Apple IIc	CALL
Apple Apple IIe	CALL
AT&T 6300 PC CPU2	\$1,575.00* (34.02)
128K/2 Floppy/1 Serial/1 Parallel	
COMPAQ Desk Pro System with	2,829.00* (61.11)
Tape Backup w/640K/1 Floppy/10MB Hard	
Disk/10MB Tape Drive/Monitor	
▶ COMPAQ Hard Disk Portable	2,235.00* (48.28)
10MB Hard Disk/1 Floppy/256K	
▶ IBM PC Base System 2	1,325.00* (30.78)
DSDD/FDC/256K	
▶ IBM PC Professional Hard Disk	1,685.00* (36.91)
(1 DSDD/FDC/10MB Hard Disk/256K)	
▶ IBM PC/AT Base System	2,795.00* (60.37)
1.2 MB Floppy/256K	
IBM PC/AT At All Configs	CALL
Texas Instruments Professional	CALL

#### DISK DRIVES

Apple 400KB External Drive	\$ 349.95*
Corvus 5.5 MB Hard Drive	939.00*
Haba 800KB Double sided	315.00*
Macintosh Add on Drive—Twice the Capacity! Reads Standard Disks!	
IOmega 5MB Bernoulli Box	1,250.00*
Paradise 10MB Hard Disk & Subsystem	969.00*
Tecmar 5MB Removable Drive	999.00*
Tecmar 10MB Mac Drive	999.00*

#### MODEMS

Apple Modem 300	\$169.00*
Apple Modem 1200	371.00*
Compuable Mac to Smartmodem	16.00*
Cable	
Hayes Smartmodem 1200	340.00*
Hayes Smartmodem 2400	535.00*
Microcom Mac Modem	360.00*
Prentice Pop Com Mac Pack	245.00*
1200 Baud Modem, Cable, Straighttalk	
Prometheus Promodem 1200 w/Mac Pac	299.00*
U.S. Robotics Password	195.00*
LOWEST PRICES 1200 BPS Available!	
U.S. Robotics Courier 2400BPS Modem	425.00*

#### PRINTERS

Apple Imagewriter II 10" Carriage	\$ 419.95*
250 CPS/45 CPS N LQ/Color Capable	
Apple Imagewriter 15" Carriage	485.00*
(with Mac kit)	
Apple Laser Writer	4,895.00*
Turns the Mac into a typesetter!	
▶ Epson DX-35 New! Daiseywheel printer	569.00*
33CPS/132COL/True Letter Quality	
▶ Epson LX-80 10" Platen 100CPS	199.00*
▶ Epson FX-85 10" Platen 160CPS	299.00*
Epson FX286 NEW! 15" Platen 200CPS N LO	459.00*
▶ Epson LQ-1500 15" Platen 200CPS	799.00*
Hanzon Hanzon Board turns your	60.00*
Epson into an Imagewriter	
NEC 3510 33CPS Letter Quality Printer	960.00*
NEC 8810 55CPS Letter Quality Printer.	1,275.00*
Both these printers are compatible with	
Microsoft Word!	
Okidata ML-192/Mac/Apple New Slimline	CALL
Design/10" Platen/160CPS/Imagewriter Look-Alike	
Okidata ML-193/Mac/Apple New Slimline	CALL
Design/15" Platen/160CPS/Imagewriter Look-Alike	

#### ACCESSORIES

(Freight minimum \$1 per item)

Apple Macintosh Carrying Case	\$ 69.00*
Apple Macintosh Security Kit	29.00*
Apple Numeric Keypad	69.00*
Assimilation Process Mac•Turbo•Touch	73.50*
Innovative Concepts Flip N File II	28.08*
Innovative Concepts Flip N File Micro (25)	6.69*
Kensington Disk Case	20.00*
Kensington Dust Cover	8.25*
Kensington Starter Pack	54.00*
Kensington Surge Protector	33.47*
▶ Koala MacVision	158.00*
Maxell Mac Diskettes (Box of 10)	29.95*
Mouse Systems A+ Mouse	55.00*
PC Network Mac Diskettes (Box of 10)	15.95*
Includes Free Flip N File	
PC Network Imagewriter Ribbons (Per 12)	36.00*
▶ Thunderware Thunderscan Turns your	155.00*
Imagewriter into an Optical digitizer!	
Sony 3.5" Diskettes (Box of 10)	19.00*
WP Printer Paper 2600 Sheets Microfine Perfs	17.00*

\*PC Network Members pay just 8% above the wholesale price, plus shipping. All prices reflect a 3% cash discount. Minimum shipping \$2.50 per order. International orders call for shipping and handling charges. Money Orders, personal and company checks please allow 10 working days to clear. All prices subject to change without notice!

## ...WITH THESE 15 UNIQUE BENEFITS

**1 COST + 8% PRICING**—The NETWORK purchases millions of dollars in merchandise each month. You benefit in receiving the lowest price available and all at just 8% above published dealer wholesale price.

**2 OUR 600 PAGE WHOLESALE CATALOG**—Members receive our 600 page wholesale catalog containing over 30,000 hardware and software products for the IBM PC, APPLE and over 50 other popular computer systems. **THE NETWORK'S CATALOG IS THE LARGEST SINGLE COMPILATION OF PERSONAL COMPUTER PRODUCTS AVAILABLE TODAY. NOW UPDATED QUARTERLY!**

**3 IN-STOCK INSURED FAST HOME DELIVERY**—The NETWORK maintains a giant multi-million dollar inventory of most popular products, allowing us to ship many orders from stock. Non-stock items are typically maintained in local warehouses just days away from The NETWORK and YOU. We pay all insurance expenses on your shipment. **EMERGENCY OVERNIGHT SERVICE IS AVAILABLE ON REQUEST.**

**4 10 DAY RETURN POLICY**—If you are not satisfied, for any reason with any hardware component purchased from The NETWORK within 10 days of receipt, we will refund your entire purchase (less shipping) with no questions asked.

**5 MEMBERSHIP SATISFACTION GUARANTEE**—If for any reason you are not satisfied with your membership within 30 days, we will refund your dues IN FULL.

**6 EXPERIENCED CONSULTANTS**—The NETWORK hires consultants, not order takers, to aid you in product selection. Our consulting staff possesses in excess of 150 man years of personal computer product experience. **We back our consultants with our money back guarantee: IF ANY PRODUCT RECOMMENDED BY OUR CONSULTING STAFF FAILS TO PERFORM AS PROMISED—WE WILL TAKE IT BACK AT OUR EXPENSE FOR A 100% REFUND.**

**7 FREE TECHNICAL SUPPORT**—The NETWORK supports every product it sells. Our qualified TECH-SUPPORT staff will help you assemble your system, interpret vendor documentation and get your software and hardware to work. **WE WILL GIVE YOU ALL THE HELP YOU NEED, WHEN YOU NEED IT—FREE!**

**8 OPTIONAL BUSINESS RENTAL LIBRARY**—All members can join our BUSINESS RENTAL LIBRARY featuring over 1000 available titles for just \$25 PER YEAR above the base membership fee. This entitles you to rent business software AT JUST 20% of the DISCOUNT PRICE FOR A 14 DAY PERIOD. If you decide to keep the software, the entire rental fee is deducted from the purchase price. **VIP MEMBERS GET A FULL 30 DAYS for just \$30 above the V.I.P. base fee. This also includes the game library privileges for a \$5 combination savings.**

**9 OPTIONAL GAME SOFTWARE RENTAL LIBRARY**—The Game Rental library is available to members for just \$10 PER YEAR and permits evaluation (or just enjoyment) of any game or educational software product as above.

**10 SPECIAL SAVINGS BULLETINS—THE PRINTOUT**—Issued Quarterly at no charge to Network members only! The Printout contains all the New Product listings and price changes you need to keep your Catalog up to date. Also, we buy excess dealer inventories, and store bankruptcy closeouts, which we turn around and make available to our members at fantastic savings via **THE PRINTOUT.**

**11 DISCOUNT BOOK LIBRARY**—Working with numerous publishers and distributors, The NETWORK has assembled a library of over 1000 computer related books and manuals at savings of up to 75% from the normal store price.

**12 MEMBERSHIP REFERRAL BONUS**—Our most valuable source of new members is you! To date almost 40% of our members have been referred by word of mouth from other satisfied members. For those of you who refer new members, The NETWORK will credit a cash bonus to your account applicable to any future purchase.

**13 CORPORATE ACCOUNT PROGRAM**—Almost 50% of The NETWORK's members are corporate buyers and users (see opposite page left). The NETWORK can establish open account status and assign designated account managers to expedite orders, and coordinate multiple location shipments.

**14 QUANTITY DISCOUNTS**—For large corporations, clubs, and repeat or quantity buyers The NETWORK can extend additional single order discounts, when available to us from our manufacturers and distributors.

**15 PRICE PROTECTION**—The PC Industry is crazy!! Prices change not yearly or monthly or even weekly but often day by day! These changes are sometimes up but are mostly down!!! **THE NETWORK GUARANTEES THAT IN THE EVENT OF A PRODUCT PRICE REDUCTION, BETWEEN THE TIME YOU PLACE YOUR ORDER AND THE TIME THE PRODUCT SHIPS YOU WILL ONLY PAY THE LOWER AMOUNT!!**

**CALL TOLL FREE 1-800-621-S-A-V-E** (orders and memberships)

In Illinois call (312) 280-0002 validation code U726

Customer Service and Order Status (312) 280-1567

Circle 45 on reader service card



# VersaTerm-PRO™

New!

Powerful Tek 4105 Workstation Graphics Communications • Terminal Emulation Program for the Macintosh™

## Terminal Emulation

- Tektronix 4105
- DEC VT100
- Tektronix 4014
- Data General D200

## File Transfer

- TEXT
- MacTerminal™ XModem
- Text XModem Protocol
- MacBinary XModem
- Text/Binary Kermit Protocol

Requires a 512K Mac or Lisa, and optionally an ImageWriter or LaserWriter printer and numeric keypad.

List Price \$295

Special upgrade price for registered VersaTerm Owners.

## Features

- Create TekPrint, MacDraw, MacPaint and MacWrite documents.
- True interactive Zoom and Pan in memory with either the 4105 or 4014 graphics.
- Fully supports all text and graphics features of the Tektronix 4105.
- The 4105 dialog can either be a separate window or text overlaying the graphics.
- Very high quality graphics may be printed on either the ImageWriter or LaserWriter.
- Supports 4105 host and keyboard Macros.
- Copy either text or graphics to the Clipboard.
- Supports ALL Auto-Dial Modems.
- User Defined Commands (mini-Macros) up to 128 characters are displayed in a menu.

## VersaTerm™

Terminal Emulations  
• DEC VT100  
• Tektronix 4014  
• Data General D200

Graphics and Text terminal emulation and communications. Supports XModem, MacBinary XModem and Kermit Protocols.

"This solid program (VersaTerm) should be looked at by all power users, especially those with VT100 and Tektronix emulation needs." — MacUser, Premiere Issue '85

Requires a 128K or 512K Mac or Lisa

List Price \$ 99

## TekPrint™

Zoom, Pan, Rotate and Print High Resolution Tektronix Graphics on the ImageWriter or LaserWriter Printer. Create MacDraw Documents. Use VersaTerm to preview and create TekPrint documents.

Registered VersaTerm Owners Including a free VersaTerm update

List Price \$ 79

VersaTerm Plus Package Including VersaTerm and TekPrint

List Price \$175

## VersaTerm-HP™

Same general features as standard VersaTerm, except the VT100 emulation is replaced with a Hewlett Packard 2621 emulation.

Requires a 128K or 512K Mac or Lisa

List Price \$ 99



2457 Perkiomen Avenue  
Mt. Penn, PA 19606  
(215) 779-0522

Circle 304 on reader service card

MACINTOSH PROTECTION NOW AVAILABLE!

## Disclone Service Won't Make You Nervous

Technical support, personal service, competitive prices.

Disclone full service quality tested diskette duplication, packaging, documentation production and processing ensures precise duplication, thorough quality control, and expedient response to your requirements.

NOclone state of the art hardware based copy protection is true piracy protection for authorized allotments only. Each application is uniquely encrypted. Install routines are coded for nontransferrable hard disk allotments. Commitment dates are guaranteed. Fast turnover

- up to 1000 in 24 hours, any format.
- up to 10,000 in one week, any format.

**disclone**  
a2c2love

DISCLONE SOFTWARE PRODUCTION SERVICES

1585 North Fourth Street, San Jose, California 95112  
(408) 947-1161 OUTSIDE CA: 1-800-826-4296

Circle 465 on reader service card

## Form 1040 Department of the Treasury — Internal Revenue Service 1985

For the year January 1 - December 31, 1985 TaxEase Spreadsheet Templates

Macintosh Election Do you want to make this year's taxes much easier to figure? ☒ Yes ☐ No  
If so, do you want to use your Macintosh? ☒ Yes ☐ No

- |                    |    |                                     |   |  |
|--------------------|----|-------------------------------------|---|--|
| Schedules Included | 1  | <input checked="" type="checkbox"/> | Schedule A — Deductions   | For paperwork reduction, order one Today |
|                    | 2  | <input checked="" type="checkbox"/> | Schedule B — Interest and Dividend Income                             |  |
|                    | 3  | <input checked="" type="checkbox"/> | Schedule C, F — Profit or (Loss) From Business or Profession, or Farm |  |
|                    | 5  | <input checked="" type="checkbox"/> | Form 4562 — Depreciation  |  |
|                    | 6  | <input checked="" type="checkbox"/> | Form 3468 — Investment Credit   |  |
|                    | 7  | <input checked="" type="checkbox"/> | Schedule D — Capital Gains and Losses                                 |  |
|                    | 8  | <input checked="" type="checkbox"/> | Schedule E — Supplemental Income Schedule                             |  |
|                    | 9  | <input checked="" type="checkbox"/> | Schedule G — Income Averaging   |  |
|                    | 10 | <input checked="" type="checkbox"/> | Schedule SE — Computation of Social Security Self-Employment Tax      |  |
|                    | 11 | <input checked="" type="checkbox"/> | Schedule W — Deduction for a Married Couple When Both Work            |  |
|                    | 12 | <input checked="" type="checkbox"/> | Form 2441 — Credit for Child and Dependent Care Expenses              |  |
|                    | 13 | <input checked="" type="checkbox"/> | Form 6251 — Alternative Minimum Tax Computation                       |  |
|                    | 15 | <input checked="" type="checkbox"/> | Forms 2119, 3903 — Sale of Residence, Moving Expense                  |  |
|                    | 17 | <input checked="" type="checkbox"/> | Forms 2106, 5695 — Employee Expenses, Energy Credit                   |  |
|                    | 18 | <input checked="" type="checkbox"/> | Schedule R — Credit for the Elderly and Disabled                      |  |

- |                              |   |                                     |  |
|------------------------------|---|-------------------------------------|--|
| For Excel, Jazz or Multiplan | 1 | <input checked="" type="checkbox"/> | Form 1040 and Accompanying Schedules Listed Above  |
|                              | 2 | <input checked="" type="checkbox"/> | Multiyear Form 1040 and Accompanying Schedules   |
|                              | 3 | <input checked="" type="checkbox"/> | Comparison of Joint and Separate returns   |
|                              | 4 | <input checked="" type="checkbox"/> | ACRS depreciation schedule including investment credit, expensing, and recapture of depreciation and investment credit upon sale.      |
|                              | 5 | <input checked="" type="checkbox"/> | Straight Line depreciation schedule including investment credit, expensing, recapture of depreciation and investment credit upon sale. |

To order TaxEase, call 303-484-5296 from anywhere. Or send in this ad. Check enclosed ☐  
Please send me the TaxEase spreadsheet templates at \$59.95 U.S. Credit card ☐  
Name  Name of Company   
Address  Phone #   
City  State  Zip Code   
Charge card ☐ Visa ☐ Mastercard ☐ Card Number   
Expiration Date  Signature

James Associates, 1525 East County Road 58, Fort Collins, CO 80524

Macintosh is a trademark licensed to Apple Computer. Jazz is a trademark of Lotus Development Corp. Excel and Multiplan are trademarks of Microsoft Corp. TaxEase spreadsheet templates permit rapid comparison of tax options. They omit some little used lines and cases from some schedules. Taxes are computed using tax rate schedules, not tax tables. The tax rate schedules may be easily updated by the user, thus avoiding year to year obsolescence.

Circle 446 on reader service card

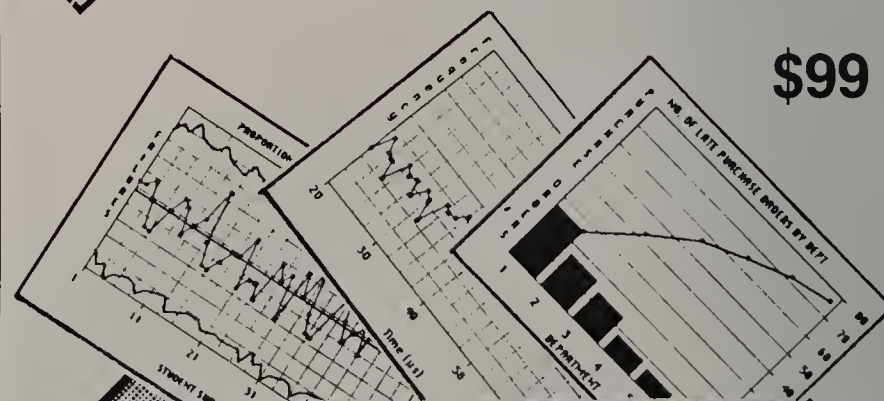
## PROCESS CHART TOOL KIT

### OTHER PRODUCTS

- Engineering Tool Kit
- Stats Tool Kit
- Biomedical Research Chart Tool Kit

- Control Charts — P, NP, U, C
- XR Charts
- Trend Charts
- Histograms
- Scatter Plots
- Pareto Charts
- MSBasic 2.0 req'd

\$99



## Sof-Ware Tools

P.O. Box 8751 • Boise, Idaho 83707

(208) 343-1437

Circle 247 on reader service card



# Macworld Directory

*The Macworld Directory is a comprehensive listing, by category, of products and services available for the Apple Macintosh. It provides advertisers with a low-cost advertising alternative and our readers with an easy reference guide.*

*FORMAT: The standard format includes a product ID, a 300-character descriptive ad, and a company name, address, and telephone number.*

*Advertisers may choose among categories already in use, or they may create their own. Display advertisers can cross-reference their current ad to the Macworld Directory for increased exposure.*

*RATES: Listings are accepted for a three-time consecutive insertion at a rate of \$726. We offer a six-time insertion at \$1230 that reflects a 15% frequency discount. Listings must be prepaid (except for established display advertisers) upon submission of ad copy. Checks, money orders, Visa, and MasterCard are accepted.*

*DEADLINE: For copy deadlines and further information please contact Niki Stranz, your Macworld Directory Account Manager, at 415/861-3861 or 800/872-7800 (800/872-7808 in California). Please send copy and prepayment to the Macworld Directory, 555 De Haro St., San Francisco, CA 94107*

*Note: In the January and February issues, Macworld inadvertently published incorrect rate information for Directory advertising. The correct rate information, per Macworld Rate Card #3, appears above. We regret any inconvenience the error may have caused.*

## ■ Accessories

### ○ Index

#### Quarterly Macworld Index

Now you can find any article, column, or product review that runs in *Macworld*. A complete quarterly index ends searching thru back issues for the info you need on Mac products, applications, software. Our index covers every *Macworld* ever published. Makes *Macworld* a Mac Library. Only \$3.95/ea., \$12.95/yr. *Indexmasters*, P.O. Box 520337, Salt Lake City, UT 84152

### ○ Cables

#### Mac Products

MacLock secures Mac, keyboard, mouse, second drive, modem, & printer. Attractive red vinyl covered steel 1/8-inch cables. Lock included \$40. Any length MacCables custom-connect any modem, printer to your Mac. Most \$29. *Tax Master* prepares U.S. taxes w/ *Multiplan*. 25 forms. Some states. \$99. *MacPlot* \$130. \$5 s/h. CA tax 6.5%  
*Mac Products*, 20231 San Gabriel Valley Dr., Walnut, CA 91789, 714/595-4838

### ○ Fonts

#### Indiawrite Fonts

Fonts for writing Hindi, Bengali, Tamil, Sinhala, Gujarati, Punjabi each \$99; Sanskrit \$149. Diacritic alone \$29. Several fonts in several sizes, plus roman with diacritic with each. All conjuncts available. Tested by Paris University. Specify U.S. or U.K. keyboard. Checks only.  
*Indiawrite*, 735 W. 183rd St. #2A, New York, NY 10033 or 24 rue Macarez, Valenciennes 59300 France

### ○ Supplies

#### Free Mouse Pad

Try one *free sample* of EZ Mouse™ die-cut, self-adhesive, antifriction pad on the bottom of your mouse.

- Dramatically improves the feel on any surface.
  - Eliminates wear on the bottom pins.
  - Keeps mouse cleaner.
  - Reduces wear on desk surface, too.
- For free sample and details, write or call:

*Hi-Tech Products*, 8331 Artesia Blvd., Buena Park, CA 90621  
714/670-2150

### ○ Switches

#### Mac A/B Switch

Switch conveniently between your letter-quality and Imagewriter printers with only a flip of a switch. Occupies only one port and provides instant access to either printer. Compatible with all LQ printers.

Complete with one cable	\$99
Add'l cable for LQ printer (Std.)	\$25
Add'l cable for LQ printer (API)	\$39

Visa/MC welcome. See display ad in this issue.  
*Creighton Development, Inc.*, 714/472-0488

## ■ Artificial Intelligence

### ○ Expert System Tools

#### ExperOPS5™

An ExpertLisp implementation of the well-known OPS5 expert systems building tool. It was implemented for ExperTelligence by Science Applications International Corporation. ExperOPS5 teams up with ExpertLisp and the Macintosh to deliver performance that rivals OPS5 on the

\$30,000 to \$50,000 class of LISP machine.

*ExperTelligence, Inc.*, 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871

#### ExperFacts™

A flexible expert systems building tool. Written in ExpertLisp by MC-Systems™, ExperFacts features backward and forward chaining, meta-level control, partitioning of the knowledge base, and a software hook that runs any LISP function including graphics!

*ExperTelligence, Inc.*, 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871

### ○ Languages

#### ExperLogo™

for the Macintosh embodies power and versatility while retaining Logo's original virtue of being easy to use. Features include 2-D, 3-D, spherical graphics, over 350 Logo commands, a compiler, toolbox calls to QuickDraw, windows, menus, etc.

*ExperTelligence, Inc.*, 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871

#### ExperLogo–Talk/Prologo™

An add-on to ExperLogo that provides the speech capabilities of ExpertLisp-Talk, sample programs, and Prologo™—a prolog language interpreter written in ExperLogo. Prologo includes documented source code for the interpreter and detailed printed documentation.

*ExperTelligence, Inc.*, 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871



## ExperLisp™

A modern compiled version of LISP with a powerful complement of functions, data types, and control structures. Developed on a Symbolics 3600™, the incremental compiler generates efficient MC68000 code providing the speed and functionality essential for the development/delivery of AI applications. *ExperTelligence, Inc., 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871*

## ExperLisp-Talk™

An add-on to ExperLisp that allows the integration of real-time text with speech synthesis in ExperLisp programs. ExperLisp also provides control of the speech pitch and rate. Includes source for a talking version of the famous *Animal* program as well as detailed documentation of the speech primitives. *ExperTelligence, Inc., 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871*

## ○ Utilities

### ExperLisp-3600™

A unique version of ExperLisp designed to optimally integrate ExperLisp with a Symbolics. A special feature, ExperLink™, supports remote procedure invocation, file transfer, plus the creation of a Mac-based Symbolics Listener Window. The Window allows programs from the ExperLisp editor to be remotely compiled on the Symbolics. *ExperTelligence, Inc., 559 San Ysidro Rd., Santa Barbara, CA 93108, 805/969-7871*

## ■ Business Opportunities

**Looking for a Publisher** for your Mac application? CSI, the publisher of many microcomputer software products would like to talk with you about publishing your innovative product ideas. Complete publishing services—documentation thru distribution. In-depth technical knowledge of the Mac. Flexible royalty %'s. *Creative Solutions, Inc., 4701 Randolph Rd. #12, Rockville, MD 20852, 301/984-0262*

## ■ Expert Systems

### MacKIT™-512K Mac Req.

The Knowledge Integration Toolkit for building Expert Systems. Since 7/85, MacKIT™ users across the U.S. and Europe to Nairobi, Kenya, are developing their skills in Knowledge Engineering and exploring new technologies in building Expert Systems. Be part of the next computer revolution. \$149 MC/Visa. *Knowledge System Environments Inc., P.O. Box 261, Dept. M2, Grantbam, PA 17027, 717/766-4496*

## ■ Hardware

### ○ Data Acquisition

#### “Real World” Access

Add measurement and control capabilities to your Mac with the ADC-1. This easy-to-use RS-232 peripheral includes 16 analog inputs (13 bit), 4 digital inputs, 6 outputs, and a BSR controller. Used for laboratory, industrial, and home monitoring. \$449. ADControl software \$45. Sensors available. *Remote Measurement Systems, 2633 Eastlake Ave. E/206, Seattle, WA 98102, 206/328-2255*

### ○ Monitors

#### MacMonitor \$1295

23-inch hi-res monochrome monitor with antiglare makes viewing your Mac easy in classrooms, trade shows, seminars, offices. Horizontal scan rate is switch selectable: 15-25 kHz. Guess what else? MacMonitor works with Apple IIe, IBM PC, Amiga, etc. MacMonitor does it all. Ask about our Mac Projectors for \$3995. *National Data Systems, 2419 Rutland Dr., Austin, TX 78758, 512/837-1760, 800/531-5143 (U.S.), 800/252-8286 (TX)*

### ○ Video Adaptors

#### The Mentaurois CVA

Provides any Mac with a high-quality video output port. Ideal for all large-screen viewing applications. Easily installs internally, no soldering, splicing, or mounting hardware required. Housing disassembly tools also avail-

able. Call for competitive pricing, product brochures, and technical assistance.

*Mentaurois Technologies, P.O. Box 1467, San Marcos, TX 78667-1467, 512/396-1565*

## ■ Insurance

### Safeware

If your computer is important to you, insure it! SAFEWARE provides full replacement of hardware, media, & purchased software. As little as \$39 a year covers fire, theft, power surges, earthquake, water damage, auto accident. Call 8 a.m. to 8 p.m. Mon. thru Fri.; Sat. 9 a.m. to 5 p.m. *Safeware, The Insurance Agency Inc., 2929 N. High St., P.O. Box 02211, Columbus, OH 43202, 800/848-3469 (Nail), 614/262-0559 (OH)*

## ■ Publications

### Microcomputer Books

Current selections include *Jazz on the Macintosh* (\$20.95), *Mac Revealed* Vol. 1 (\$22.95), *Basic Microsoft BASIC* (\$16.95), *Macintosh Multiplan* (\$15.95), *Serious Business with Microsoft Excel* (\$21.95). Ship/handling extra. MC/Visa/AmEx. Send for free directory of titles available. *Micro Books, P.O. Box 60203, Grand Junction, CO 81506, 800/874-5280, 800/874-3426 in Colorado*

## ■ Services

### ○ Data Conversion

#### Electronic Data Conversion

Conveniently translate data files from dedicated word processors, phototypesetters, PC software (word processing, databases, spreadsheets including formulas) to your Macintosh or other system. Experience compatibility. Call or write, then send a sample disk or tape for a complimentary translation. *CompuData Translators, Inc., 6565 Sunset Blvd. #301, Hollywood, CA 90028, 213/462-6222*

### ○ Graphics/Printing

#### SAVE \$\$\$\$\$\$\$\$\$\$

Professional typesetting, printing (offset or laser), publishing, and graphics design done from your Mac disks, via modem or by Fax machine.

We use a high-quality Linotype™ laser typesetter or an Apple LaserWriter. Complete printing services including business forms, letterheads, business cards at Low, Low prices. *Laser Printing Services, 26058 W. 12 Mile Rd., Southfield, MI 48034, 313/356-1004*

### ○ Repair

#### JulianCare™ Service

Where AppleCare™ fears to tread... With JulianCare's™ umbrella of protection you won't get caught out in the storm. JulianCare™ provides warranty coverage on all Macintosh™ parts, peripherals, & components. Coverage for 3rd-party upgraded Macintoshes™ (which void AppleCare™ warranties). Call/write for details/rates. HyperDrive™/512K-1Meg-2Meg-4Meg upgrades avail. at lowest prices. *Julian Systems, 953 De Haro St., San Francisco, CA 94107, 415/647-5525, 800/4-Julian, 800/447-2300 in California*

### ○ Typesetting

#### MacTypeNet

Professional typesetting services for the Macintosh. Text and/or graphics output at 300 to 2450 lines per inch resolution from Apple LaserWriter™ or Allied Linotype™ L300 laser typesetter. Disk and modem service. 24-hour turnaround. Full printing and bindery services. Write or call for user info. *MacTypeNet™, Box 52188, Livonia, MI 48152-0188, 313/477-2733*

## ■ Software

### ○ Accounting

#### Shopkeeper

For retailers and service firms, Integrated Accounts Receivable, Billing, Inventory, Point of Sale, & Invoicing program. Use all or any parts. (880 customers, no limit inventory.) Written just for the Macintosh. Works with any general ledger system. For the 512K Macintosh with external or hard disk drive. Introductory offer \$149.95. *Woodtec, 320 W. Maple, P.O. Box 445, Arkansas City, KS 67005, 316/441-0187*



## ○ Apple Emulator

### II in a Mac™

NOW!... Run Apple II™ software on your MAC, without additional hardware!... “II in a Mac” looks and acts like a real Apple II.

● ● ●

Run DOS 3.3 and ProDOS software with Apple II HiRes graphics and joystick support for games... Apple II Transfer software incl.

● ● ●

Introductory Price..... \$49.95  
*COMPUTER: applications, Inc.,  
12813 Lindley Dr., Raleigh, NC  
27614, 919/846-1411*

## ○ Architecture

### MacPerspective™

Allows architects, draftspeople, and artists to rapidly construct perspective drawings of houses, buildings, or other objects. Viewpoint can easily be changed. Drawings can be printed in any size up to 100 inches. Easy to learn and use. Fast, professional program with many features, thorough manual. \$189.

*B. Knick Drafting, 313 Marlin Pl.,  
Melbourne Beach, FL 32951,  
305/727-8071*

## ○ Backup Restore

### COPY II MAC

COPY II MAC backs up nearly all protected software easily! Allows running some direct from your hard disk—so put that original 3½" safely away! Repairs damaged disks and undeleted files, too! For 128-512K Mac, 1-2 drives. \$39.95 + \$3 s/h (\$8 overseas). Visa/MC/chk/c.o.d. (We also have backup programs for IBM, Apple, Comm 64!)

*Central Point Software, Inc., 9700  
S.W. Capitol Hwy. #100, Portland,  
OR 97219, 503/244-5782*

## ○ Business

### ZipFinder

Analyzes your mailing list files created with virtually any database program and automatically inserts the correct zip codes into the zip code fields. Also verifies existing zip codes on file and finds zips according to addresses entered by operator. Sold by state or partial state.

*SoftIdea, 8177 S. Harvard #619,  
Tulsa, OK 74137, 918/745-9792.*

## ○ Compilers

### MacLanguages Series Pascal

A complete native code Pascal compiler and development system for the Macintosh. Provides full access to all ROM routines and other Apple software like *MacinTalk* and *Three D Quickdraw*. Creates stand-alone double-clickable applications and desk accessories, and it's compatible with Apple's MDS. \$99.95 + 5 s/h.  
*TML Systems, P.O. Box 361626,  
Melbourne, FL 32936,  
305/242-1873*

## ○ Data Management

### DATAFAST

A powerful yet SUPER-EASY-to-use professional database management program. Create mailing lists, directories of customers, inventories, etc. Use predefined formats or create your own. Easy entering, sorting, and updating of data. “Copy” and “Paste” records into your *MacWrite* documents. \$49. Req. 128K, 1dd.  
*Statsoft, 2831 E. Tenth St. #3, Tulsa,  
OK 74104, 918/583-4149*

### db\_VISTA DBMS for C

Programmer's database. B-tree indexing, multiple-key records, royalty free, optional source, application portability to MS-DOS/UNIX. db\_VISTA is a network model DBMS. C programs manipulate and access the database. Requires 512K/2 drives, \$195/30-day guarantee. See db\_VISTA in Manx booth at Mac Expo.

*Tom Condon, Product Manager,  
Raima Corporation, 12201 S.E.  
Tenth St., Bellevue, WA 98005,  
206/747-5570*

## ○ Educational

### New Test Generation Pkg.

MicroTest II creates, updates, generates, and stores a wide variety of tests. Easy question entry, on-screen edit, prints multiple versions with separate answer keys. Writes MacWrite/MacPaint compatible files for WP and graphics. Ideal for trainers, educators. Send for free brochure.  
*Chariot Software Group, 3659  
India St., San Diego, CA 92103,  
619/298-0202*

## ○ Engineering

### Digital Logic Design Aid

LogiMac is an interactive digital logic drawing and simulation package for the Macintosh. It is intended for use by engineers, students, teachers, and hobbyists interested in designing,

documenting, and experimenting with digital logic hardware. It supports most common gates, flip-flops, etc. \$79.95 (U.S.).

*Capilano Computing, 554 Beatty  
St., Vancouver, B.C. V6B 2L3 Canada,  
604/669-6343*

### Structural and Civil

Frame & beam analysis & design pgms, others. Any # of nodes, elements, loads. Section data read from disk. Structure load, tension, shear, moment & defraction diagrams, in & out text, section table, more. Full Mac interface. Frame in Feb; BEAMAC II (continuous beam) \$295. BEAMAC (simple) \$95. Any demo \$10. \$back guarantee. Info, support: free.  
*Erez Anzel, 5800 Arlington Ave.  
#5T, Riverdale, NY 10471,  
212/884-5798*

### Tolculator

Automates Geometric Tolerancing Design and Inspection. Positional fit & other formulas; picks drill, c'bore, etc.; math (trig., least squares, etc.); tolerance circuits; probability studies. Auto in process sampling & coordinate measuring mach. output analysis; metric conv., & much more. Req. *Microsoft Excel*. No computereeze. Not protected. \$125.  
*Samuel J. Levy Engineering, 2943  
Cortina Dr., San Jose, CA 95132,  
408/251-7058*

## ○ Games

### Dungeon Masters

Gamemaster #1 provides four utilities for the FRP game master. Save hours on repetitive tasks with NPC Generator, Experience Point & Attack Priority Calculators, and Multiple Random Roller. Requires MBASIC 2.0 or later. \$25 includes s/h. Check or money order to:  
*Hack & Slash Software, 1525E S.  
Broadway, P.O. Box 6066, Santa  
Maria, CA 93456*

## ○ Graphics

### MacIllustrations, Vol. 1

Enhance your personal and business communications as you add your individual touch to letters, memos, newsletters, invitations, and announcements with these quality illustrations of people, animals, cars, cartoons, borders, and more. \$35 + \$2 s/h. (CA res. add 6% sales tax.)  
*RiverCity Software, 7250 Auburn  
Blvd. #200, Citrus Heights, CA  
95610, 916/722-4191*

### Mac-Art Library

Mac-Art Library is 11 full disks of professional quality *MacPaint* art files. At \$29.95/disk, choose from *Animals, Plants, Transportation, Sports, The Farm, Tools, The Kitchen, Buildings, Signs/Symbols, Greeting Card Art, Geography*. Or get all for \$200. Also available: a Library Sampler for \$39.95.  
*CompuCRAFT, P.O. Box 3155, Englewood, CO 80155, 303/850-7472*

### MacPlot Graphics Library

for scientific and technical work using Microsoft™ (Absoft™) FORTRAN. Includes standard FORTRAN calls (Plot, Line, Axis, etc.) and 3-dimensional plot program with hidden line elimination. Plots can be dumped to printer or disk. \$49.95.  
*Lipa Software, 165 Harcross Rd.,  
Woodside, CA 94062,  
415/366-0547*

### Fantasy & Horror Graphics

Collection #1 contains original images of Fantasy, Science Fiction, and Horror figures. Use them as is, or alter them to suit. Make your own cards, announcements, miniposters, and cartoons. This disk is a MUST for horror/fantasy/science fiction buffs, \$29.95 (\$32.05 in CA) ppd.  
*A.A.H. Computer Graphic Productions, P.O. Box 4508, Santa Clara,  
CA 95054*

### Magic Slate—Version 2.0

A dynamic graphics program that brings to the Mac environment an exciting art medium stimulating untapped artistic talent. Slate provides features typically found in expensive systems. Since you have a state-of-the-art computer, it makes sense to support it with similar software that opens the door to a fulfilling new personal experience.  
*Devionics, P.O. Box 2126, Corvina,  
CA 91722, 714/779-7193*

## ○ Languages

### NEON™

An object-oriented programming language, NEON™ offers a Small-talk-like environment implemented as an efficient threaded language to provide new power, flexibility and speed for developing for the Mac—on the Mac. \$195 + \$5 s/h.  
*Kriya Systems, Inc., 6 Export Dr.,  
Sterling, VA 22170 1-800-34-KRIYA  
or 703/430-8800*



## MacFORTH™

*The Language of Innovation.* Create windows, menus, graphics, mouse events quickly & easily using this interactive & fast language.

Level 1 - Explorer's Systems \$149  
Level 2 - Professional System \$249  
Level 3 - Developer's Kit \$499  
*Royalty Free License* for commercial development.

*Creative Solutions, Inc., 4701  
Randolph Rd. #12, Rockville, MD  
20852, 301/984-0262*

## Multitasking for the Mac

Mach1™ is Forth-83 with:

- True multitasking
- Twice the speed of other FORTHS
- Hi-level access to Toolbox, floating-point, & speech routines
- A standard MC68000 assembler
- Normal text source files
- Turnkey applications
- \$49.95 Visa/MC
- No licensing fees

*The Palo Alto Shipping Company,  
P.O. Box 7430, Menlo Park, CA  
94026, 415/854-7994,  
800/443-6784*

## MacScheme™—A Mac LISP

A LISP environment that makes a 512K Mac feel like a LISP machine. MacScheme™ features a fast, reliable byte code interpreter with debugger, trace facility, and helpful error reporting. Its Smalltalk-like interface offers multiple windows and an editor that understands LISP syntax. \$125.

*Semantic Microsystems, 4470 S.W.  
Hall St. #340, Beaverton, OR  
97005, 503/643-4539*

## Marketing

### macINTERVIEW

macINTERVIEW is a variable market or opinion survey program to quickly analyze all kinds of inquiries. macINTERVIEW presents the results in tabular form as bar, column, or polarity charts on the screen or in print. macINTERVIEW enables the user to edit, enter, classify, concentrate, cross-tabulate, and compare data. Macintosh 512K. \$950 for English version.

*Erich Breitschwerdt + Partner,  
Paulsmuehlenstr. 41,4000  
Dusseldorf 13, West Germany*

## Medical

### Medical & Dental Mgmt.

Solo or multipractitioner office includes patient (responsible party)

billing, recall, paper/electronic claims, aging, collection, SuperBill, labels, diagnostic history, *Word/Mac-Write*, audit & productivity reports. 24-hr. support. 512 + hard disk or XL. Mac Office. Demo from \$100. AMEX/MC/Visa. 2400 + dealers. *CMA Micro Computer, 55722 Santa Fe Trail, Yucca Valley, CA 92284, 619/365-9718*

## Music

### StudioMac Music Kit

No experience required! StudioMac™ comes complete with Casio CZ-101 keyboard synthesizer, MIDI adapter, and easy-to-use software. Play new creations or *MusicWorks* pieces through the synthesizer. Great family entertainment. Synthesizer Kit \$595, MIDI Kit \$214, software only \$125.

*Creative Solutions, Inc., 4701  
Randolph Rd. #12, Rockville, MD  
20852, 301/984-0262*

## Presentation Graphics

### Overeasy™

Spend less time shuffling pictures, organizing slides, and reworking diagrams for your next presentation. *Overeasy* is a powerful solution to the mgmt. of pictures on a 512K Mac w/ easy manipulation such as merging, insertion, or deletion. Pictures & text can be created or imported from other documents. Special lines, symbols, & shapes are provided as well as an outlining facility. \$149 *Overeasy, 2540 California St. #2, Mountain View, CA 94040, 415/941-4715*

## Public Domain

### Mac Public Domain

Mac Public Domain Software—Hundreds available, \$10 per disk. Choose from applications, *Multiplan* templates, games, art, utilities, backup programs, disk editors, music, templates for business, desk accessories. Carefully organized with documentation. Send \$1 for a catalog. *Educomp, 2139 Newcastle Ave., Cardiff, CA 92007, 619/942-3838*

### Public-Domain Disks \$9

Have access to 1000 public-domain programs by mail! Members pay \$9 per disk plus \$1 postage & handling. Send \$20 for 1-year subscription. Includes intro disk with ten neat pro-

grams, plus listing of all disks in library, plus quarterly newsletter describing latest public-domain software.

*PD Mac, Dept. Z, P.O. Box 5626,  
Sherman Oaks, CA 91423*

### 1000 Programs/55 Disks

Up-to-date software on 55 disks! 3 MBASIC utility disks—incl. ReEd, ResEd, Switcher—\$27  
24 fonts (create own)—\$9  
12 games (Megaroids)—\$9  
20 desk accessories (HP-12calc)—\$9  
Rolodex/Screen Maker—\$9  
Latest terminal emulators—MacTEP & Red Ryder—\$9

\$4 s/h per order. 50-pg. catalog—\$3 Visa/MC/chk.

*The Public Domain Exchange, 673  
Hermitage Place #1A, San Jose, CA  
95134, 408/942-0309*

## Real Estate

### REMS Investor 2000

Perform powerful investment analysis on your Macintosh. Over ten different loan types, latest depreciation, variable assumptions, industry standard reports. Stand-alone program uses all the Mac features. Easy to learn. For more information ask your dealer or call REMS direct.

*REMS Software, 526 N.W. Second St., Corvallis, OR 97330,  
503/757-8887*

### Property Management

Comprehensive program for managing residential and commercial properties. Many management reports including: operating statement, delinquent rent, lease expiration, and transaction register. Provides check writing, check reconciliation, posting late fees, recurring expenses—\$395. Investment analysis—\$245.

*Yardi Systems, 3324 State St. Ste. O,  
Santa Barbara, CA 93105,  
805/687-4245*

## Science

### MacStronomy

Displays and prints maps of the stars, moon, planets, and Halley's comet at correct locations in the sky for any selected date, time, direction, and field of view. Displays descriptions of objects when selected with the mouse. Users can add their own stars/planets. Runs on 128K or 512K Mac. \$75.

*Elton Software, P.O. Box 649,  
Lafayette, CO 80026,  
303/665-3444*

## Spec Writing

### MacSpec

A professional's word processor for writing specs, proposals, and technical papers. With automatic:

- Section numbering
- Indentation
- Table of contents
- New table of contents and numbers when paragraphs are changed
- All you worry about is input of text.

Compatible with existing word processors. \$199.95.

*LM Software, P.O. Box 93, Belmont,  
CA 94002, 415/594-0627*

## Spelling Checker

### Spellswell™

A better spelling fixer for *Mac-Write™*, *Word™* and text documents.

- Catches mistakes the others don't, like "insufficient funs"
- Checks homophones, e.g., there/their
- Handles hyphens/abbreviations
- Maintains capitalization
- Add/remove words from dictionary
- Separate document dictionaries
- \$49.95

*Greene, Johnson, Inc., 15 Via  
Chualar, Monterey, CA 93940,  
408/375-2828*

## Statistics

### Number Cruncher Stat Sys

Integrated, menu-driven, Mac statistical system including: Multiple and stepwise regression, t-tests, correlation, scatter plots, up to 4-way ANOVA, principal components, cross tabulation, transformation, non-parametrics and much more. Complete Mac interface. Transfer data to/from clipboard. \$79. Requires 2dd. *NCSS-Mac, 865 E. 400 N., Kaysville, UT 84037, 801/546-0445*

### STATEFAST

Professional but easy-to-use, SUPER-FAST statistical package. Unlimited size of data files. Incl. two flexible data editors (can access *Multiplan* & other files), descriptive stats, t-tests, correlations, cross-tabulation, non-parametric stats, general multifactor ANOVA/ANCOVA, multiple regression, charts, plots, and more. \$119. Req. 128K, 1dd.

*Statsoft, 2831 E. Tenth St. #3, Tulsa, OK 74104, 918/583-4149*



## ○ Tax

### Professional Tax Planner

*Multiplan* or *Excel* users, plan indiv. or corporate strategy, incl. current & prop. tax law changes, easy spreadsheet commands. Compute deprec. & ITC, compare side by side, project ten yr. +. Fully adjust. EZTax-PLAN PRO \$295 + \$3 s/h. Specify your spreadsheet & machine. MC/Visa. Individual pkg. also avail. Free info. *EZWare Corporation, Dept. 5, P.O. Box 620, Bala Cynwyd, PA 19004, 800/543-1040, 215/667-4064 in PA*

### TAX-PREP™

*Multiplan* or *Excel*—fast, easy preparation of 1985 tax returns for individuals or tax professionals. Easy spreadsheet commands. Make fast last-minute changes. IRS-approved printout. 22 sched. *Multiplan* or *Excel* req. Avail. Jan. Specify your spreadsheet & machine. Mac \$99.95 + \$3 s/h. PA add 6% tax. Visa/MC.

*EZWare Corporation, Dept. 5, P.O. Box 620, Bala Cynwyd, PA 19004, 800/543-1040, 215/667-4064 in PA*

### Multiplan Tax Templates

*Multiplan* Tax Template for 1985 Tax Returns and 1986 Tax Planning. 1040 plus schedules A, B, C, D, E, G, R, SE, and W and forms 2106, 2441, 3903, 4972, 4797, 5695, and 6251. Instructions on disk. Requires *Multiplan*. Available NOW for \$29.95 plus \$2 s/h. Two-day turnaround on all orders. Send check or money order to: *Decision Software, 99-124 Iwaiwa Place, Aiea, HI 96701*

### Database Manager

Program stores tax receipt and other tax data in files created and formatted by the user. Files can be established for sales tax, interest income, medical bills, etc. New data is verified not already in file, then organized by date. One master file tracks deductions; a second tracks income. \$18.

*Gary Homes, 3906 Whooping Crane Circle, Virginia Beach, VA 23455, 804/464-1949*

## ○ Utilities

### GRIDS™ Tools for MacPaint

Know where the window is! 2 disks of utility templates for MacPaint for producing professional-looking drawings and charts. A collection of various grids, scales, rulers, protractors and charts with instruction manual. Use it once and wonder how you

did without it! \$40 ppd. To order or request information:

*Soft Wares Inc., 19 Monroe Dr., Williamsville, NY 14221, U.S. 800/848-5500, NY 800/447-5500, Ext. 50*

### MacBackup™

The quickest & easiest way to make exact duplicates of your original software. You'll never see "Insert your master," because this duplicate is your master. Loads many protected programs to hard drives. For 128K, 512K, 1 or 2 drives. You can prevent destruction to your original software for only \$69.95 + shipping.

*Practical Computer Applications, Inc., 1305 Jefferson Hwy., Champlin, MN 55316, 612/427-4789*

*The Macworld Directory is a comprehensive listing, by category, of products and services available for the Apple Macintosh. It provides advertisers with a low-cost advertising alternative and our readers with an easy reference guide.*

*FORMAT: The standard format includes a product ID, a 300-character descriptive ad, and a company name, address, and telephone number.*

*Advertisers may choose among categories already in use, or they may create their own. Display advertisers can cross-reference their current ad to the Macworld Directory for increased exposure.*

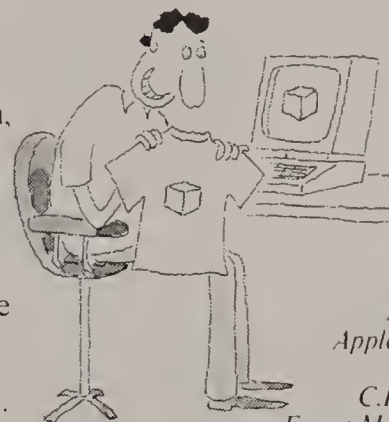
*RATES: Listings are accepted for a three-time consecutive insertion at a rate of \$726. We offer a six-time insertion at \$1230 that reflects a 15% frequency discount. Listings must be prepaid (except for established display advertisers) upon submission of ad copy. Checks, money orders, Visa, and MasterCard are accepted.*

*DEADLINE: For copy deadlines and further information please contact Niki Stranz, your Macworld Directory Account Manager, at 415/861-3861 or 800/872-7800 (800/872-7808 in California). Please send copy and prepayment to the Macworld Directory, 555 De Haro St., San Francisco, CA 94107.*

## How to print T-shirts using your computer!

With the Underware® ColorPack and a Macintosh™, Apple® II, Commodore, IBM® PC, Atari—virtually any computer with graphics capability and a dot matrix printer—you can make custom color T-shirts and more...

Use the black Underware Ribbon to print the computer image on plain paper. Add red, blue, green, yellow or orange to the paper with Underware ColorPens. Iron it on to a T-shirt or fabric. The transfer is permanent and washable. Each Underware ColorPack makes between 30-100 transfers in up to five colors for only \$24.95. Only Diversions, Inc. offers a complete selection of products to help you transfer graphics from your computer to fabric.



Available for:  
Apple Imagewriter  
NEC 8023  
C.Itoh Prowriter  
Epson MX80 & MX100  
Okidata 80, 82, 83, 92, 93  
Star Gemini 10X, 15X

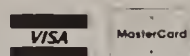
## Diversions

UNDERWARE COLORPACK \$24.95  
(Set of 5 Pens and 1 Black Ribbon)

UNDERWARE RIBBON (Black) \$14.95 (Color) \$16.95

UNDERWARE COLORPENS (Set of 5) \$14.95

UNDERWARE JUMBO COLORPENS (Set of 7) \$19.95



**Diversions, Inc.** 505 W. Olive Ave. #520 Sunnyvale, CA 94086 **408-245-7575**

Circle 164 on reader service card

## TRY IT FIRST

# SOFTWARE LIBRARY

BE A PART OF IT!!!

**FREE MEMBERSHIP**  
**\$20 VALUE**

### RENTAL APPLIES

	Rent	Sell
Decision Map .....	\$19.57	\$ 90.04
Dollars & Sense .....	17.99	82.77
EXCEL .....	49.97	229.88
MS FILE, WORD		
or PLAN .....	26.32	121.09
MacDraft .....	32.98	151.70
MacInooga Choo-Choo .....	8.99	27.56
OMNIS 3 .....	66.82	307.39
PageMaker .....	92.25	424.35
ThunderScan .....	40.00	184.00
Easy 3D .....	14.85	68.31
Smartcom II .....	21.79	100.24
Reading Adventure I .....	8.99	32.30



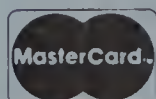
YOUR MAC WILL FLIP

**14 Day RENTAL**  
**400 PROGRAMS AVAILABLE**

**SONY 3.5" DISKS SINGLE SIDE D/D \$1.95 ea.**  
**IMAGewriter RIBBONS BLK—\$3.15 COL—\$4.25**

**Order Hotline: 1-800-847-5775**

**SOFTWARE LIBRARY** • P.O. Box 66754 • Houston, TX 77266



In Texas & Information

**(713) 622-1100**





# We RENT Mac Software !!

**MacStore™** 28 Tealwood  
New Braunfels  
Texas 78130

National **1-800-847-0026**

Over 275 different stock items for your Mac



Don't invest in software without taking it for a test drive first!

Accessory Pak 1	9.30	Mac Gammon	9.30
Art grabber	9.30	Mac Labeler	9.30
Back to Basics G.L., A.P., or A.R. (each)	26.66	Mac Lion	34.95
Battery Pak	9.30	Mac Project	26.29
Bulk Mailer	21.60	Mac Publisher & Mac Publisher II	Call
Chip Writs	9.30	Mac Spell Right	14.95
Click Art, Effects, Letters, Publications (each)	9.30	Mac Spell +	14.95
Click-on Worksheet	13.33	Mac Stronomy	13.20
Consultant	30.80	Mac Terminal	26.14
Copy II Mac	9.30	Mac 3 D	31.95
Crunch	42.05	Mac Tracks	9.30
Davinci (We have them all!)	Call	Mac the Knife 1, 2, or 3 (Art, Fonts, Ripper)	Call
Dollars and Sense	21.50	Management Edge	35.65
Excel	57.75	MegaFiler, MegaForm, MegaMerge	Call
Factfinder	22.95	Mind Prober	9.30
Filemaker	32.44	Musicworks	13.19
Filevision & Business Filevision	Call	My Office & My Office 512	Call
Fluent Fonts, Fontastic, Font Explorer, Laser Fonts, Superfonts, UltraFonts...	Call	Omnis III	70.95
Forecast	11.68	Orbiter	9.60
Frogger	9.30	Overview	38.28
Gato	9.30	Pinball Construction Set	9.30
Helix	57.80	Quick Disk, Quick Word, Quick Paint (each)	9.30
Infocom games	Call	Ready Set Go	19.90
Jazz	89.90	Smooth Talker	15.36
Keystroke	64.68	Tempo	16.33
Languages (Asm, Basic, C, Cobol, Exerlisp, Fortran, Pascal)	Call	Think Tank 128 & 512	Call
Microsoft Chart, File, Multiplan, Word	Call	TurboCharger	15.91
Mac Attack	9.30	Typing Tutor III	9.89
Mac Challenger	9.30	Video Works	16.63
Mac Command	9.30		
Mac Draft	37.85		
MacDraw	32.47		

No membership fee • 16 day rentals • Rental applies to purchase

The apple logo is a trademark of Apple Computer, Inc.



In  
Texas

**1-800-222-1537**

After tone ask operator for  
extension **993265**

or dial direct **512-629-5419**



Circle 116 on reader service card

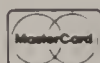
## A COMPLETE DATA-BASE MANAGEMENT PROGRAM FOR ONLY:

# DATAFAST™

DATAFAST is super-easy to use. Select options from menus and answer simple questions to do things that require a programming language in other data-base programs!

- Multipurpose: You can use DATAFAST to store and process data about everything that needs organizing: addresses, mailing lists, clients, patients, customers, inventories, references, bibliographies, collector's items, recipes, you name it... Various serious business applications
- Easy entering, updating, sorting, and reorganizing of your data
- Can access data from other programs and computers
- You can print labels or formatted reports, fill out forms, invoices, "copy" and "paste" any records or sets of records from DATAFAST files into your MacWrite documents (letters, memos, articles), you can also generate "text files" to be accessed by other programs and computers
- You can use predefined formats of records (included) or define your own formats
- DATAFAST is very fast even when your data files are large. It can handle even the most demanding professional applications. DATAFAST supports data files as large as your disk: 6000 lines of text (310k) on a 512k Macintosh, 1500 lines of text on a 128k Macintosh
- Runs on 128k or 512k Macintosh. External disk drive and hard disk are supported but not required

To order send check or money order for \$49  
(plus \$5.00 shipping and handling) to:

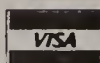


**StatSoft™**

(the developers of STATFAST)

2832 East 10th Street, Suite 4, Tulsa, OK 74104. (918) 583-4149

Macintosh is a registered trademark of Apple Computer, Inc.



Circle 302 on reader service card

164 March 1986

# Advertiser Index

Reader  
Service  
Number

- 274 Affinity, 149
- 306 Aldus Corporation, 71
- 227 Altsys Corp., 168
- 464 Applications International, Inc., 135
- 373 Best Computer Supplies, 16
- 38 Blyth Software, 14-15
- 381 Borland International, IFC-1
- 453 Business Computers of  
Peterborough, 151
- 298 CWare Corporation, 171
- Casady Co., 73
- 452 Cauzin Systems, 22-23
- 175 Central Point Software, 54
- 330 CompuServe, 18-19
- 279 Computer Friends, 36
- 449 Cricket Software, 42
- 437 Creighton Development, 56
- 159 DataPak Software, 136-137
- 281 DataViz, 165
- 465 Disclone, 158
- Disk World, 134
- 164 Diversions, 163
- 403 Enabling Technologies, 43
- 83 Ergotron, 53
- 323 GTCO Corp., 24
- 143 General Computer, 17
- 473 Great Plains Software, 139
- 231 H & E Electronics, 58
- 257 Hayes, 166
- 272 Icon Review, 32-35
- 305 Innovative Technologies, IBC
- International Apple Core, 49
- 171 Iomega, 10-11
- 446 James Associates, 158
- 214 John Wiley & Sons, 172
- 11 Kensington Microware, 40-41
- 468 KillyCorp., 171
- 246 Kriya, 46
- 238 Lionheart Press, 154
- 455 Lyben Computer Systems, 72
- 467 MDIdeas, 133
- 291 MPH Electronics, 138
- 395 Mac Doctor Electronics, 129
- 4 MacConnection, 76-79
- 474 MacFan, 48
- 337 MacMemory, 66
- 295 MacOhm Projects, 155
- 368 MacRentals, 171
- 16 MacStore, 164
- 2 Manhattan Graphics, 5
- 112 Manx Software, 69
- 261 MassTech, 170
- 267 Maxell Corp., 105
- 369 Meacom, 50
- 109 Megamax, 70
- 414 Megasoft, 154
- 97 Mesa Graphics, 140
- 352 Micah, 93
- 174 Micro Conversions, 142-143
- 472 Micro-W Distributing, 154
- MicroRain, 126
- 235 Micrographic Images, 129
- Microsoft, 26-27, 28-29, 122
- 470 Microtech Peripherals, 60
- 406 Mirror Technologies, 37
- 215 Northeastern Software, 144-147
- 13 Odesta, 8-9
- 436 Open Systems, 124-125
- 233 PBI Software, 131
- 45 PC Network, 156-157
- 387 Palantir Software, 62
- 450 Panamax, 155
- Paradise Systems, 30

Reader  
Service  
Number

- 304 Peripherals Computers &  
Supplies, 158
- 223 Personal Computer Peripherals  
Corp., BC
- 85 Personics Corp., 55
- 194 Programs Plus, 44-45
- Satori Software, 7
- Saving Zone, The, 127
- 266 Silicon Beach Software, 25
- 198 Simon & Schuster, 6
- 420 Singular Software, 47
- 372 SirTech Software, 12
- 247 Sof-Ware Tools, 158
- 343 SoftStyle, 141
- 412 Softflair, 155
- 456 Softview, 74
- 435 Software Discoveries, 148
- Software Library, 163
- Software Ventures, 51
- 255 Sony, 64
- 225 StatSoft, 152
- 302 StatSoft, 164
- 177 Systems Control, 70
- 451 T/Maker Graphics, 21
- 471 TML Systems, 150
- 55 Telemart, 153
- 167 Thunderware, 38
- 469 True Basic, 20
- 134 USA-Flex, 132
- 456 Vision Technologies, 171
- Warner Books, 155
- 439 Warp Nine Engineering, 68
- 374 Williams & Macias Microcomputer  
Products, 72



Get more data on products  
you're interested in—  
simply return this card today.  
There's no cost.  
And no obligation.

- It's easy to get more information on products advertised in Macworld.  
Here's how:
- Print or type your name and address in the spaces provided, and answer the questions that apply to you or your company. (These questions help us to better meet your needs and the needs of our advertisers.)
  - Circle the number(s) on the card that corresponds to the reader service number(s) for the product(s) in which you're interested. For your convenience, the reader service number appears in the ad and in the Advertiser Index.
  - Detach the card from the magazine, fold, seal with tape (please do not staple), apply first-class postage, and mail. Literature on the products you're interested in will be mailed to you directly from the manufacturer, free of charge.

# Free Product Information Service

Please print or type all information.

Name

Company

Address

City, State, Zip (Zip code needed to insure delivery)

Phone: Area Code/Number

PLEASE NOTE: This card is for your convenience in obtaining information on products advertised in *Macworld*. Please send editorial comments or inquiries to: The Editor, *Macworld*, 555 De Haro St., San Francisco, CA 94107. Thank you.

## 1. Your primary job function:

- ☐ (A) Corporate or general management
- ☐ (B) Department manager
- ☐ (C) MIS manager
- ☐ (D) Professional
- ☐ (E) Other

## 2. Number of employees in your company:

- ☐ (1) 25 or less
- ☐ (2) 26-99
- ☐ (3) 100-499
- ☐ (4) 500-999
- ☐ (5) 1000+

## 3. Information requested for:

- ☐ (A) Business applications
- ☐ (B) Home applications

## 4. Reason for inquiring:

- ☐ (1) Plan to buy—next 3 months
- ☐ (2) Plan to buy—4-6 months
- ☐ (3) Plan to buy—7-12 months
- ☐ (4) Plan to buy—beyond 12 months
- ☐ (5) Reference only

## 5. For how many personal computers do you buy products? (Include both company and personal units, please.)

- ☐ (A) 1
- ☐ (B) 2-4
- ☐ (C) 5-9
- ☐ (D) 10 or more

## 6. How many of the above are Macintoshes?

- ☐ (1) 1
- ☐ (2) 2-4
- ☐ (3) 5-9
- ☐ (4) 10 or more

## 7. How much do you plan to spend in the next 12 months for peripherals and other add-ons for the Macintosh(es)?

- ☐ Less than \$250
- ☐ \$250-\$499
- ☐ \$500-\$999
- ☐ \$1000 or more

## 8. How much do you plan to spend in the next 12 months on software for the Macintosh(es)?

- ☐ Less than \$250
- ☐ \$250-\$499
- ☐ \$500-\$999
- ☐ \$1000 or more

Valid through 5/28/86

☐ Please bill me \$30 for a 1-year (12-issue) subscription to *Macworld* (U.S. only).

4AZX0

W[1]

Mar 86

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96
289	290	291	292	293	294	295	296	297	298	299	300
301	302	303	304	305	306	307	308	309	310	311	312
313	314	315	316	317	318	319	320	321	322	323	324
325	326	327	328	329	330	331	332	333	334	335	336
337	338	339	340	341	342	343	344	345	346	347	348
349	350	351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370	371	372
373	374	375	376	377	378	379	380	381	382	383	384

97	98	99	100	101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132
133	134	135	136	137	138	139	140	141	142	143	144
145	146	147	148	149	150	151	152	153	154	155	156
157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192
385	386	387	388	389	390	391	392	393	394	395	396
397	398	399	400	401	402	403	404	405	406	407	408
409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432
433	434	435	436	437	438	439	440	441	442	443	444
445	446	447	448	449	450	451	452	453	454	455	456
457	458	459	460	461	462	463	464	465	466	467	468
469	470	471	472	473	474	475	476	477	478	479	480

193	194	195	196	197	198	199	200	201	202	203	204
205	206	207	208	209	210	211	212	213	214	215	216
217	218	219	220	221	222	223	224	225	226	227	228
229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252
253	254	255	256	257	258	259	260	261	262	263	264
265	266	267	268	269	270	271	272	273	274	275	276
277	278	279	280	281	282	283	284	285	286	287	288
481	482	483	484	485	486	487	488	489	490	491	492
493	494	495	496	497	498	499	500	501	502	503	504
505	506	507	508	509	510	511	512	513	514	515	516
517	518	519	520	521	522	523	524	525	526	527	528
529	530	531	532	533	534	535	536	537	538	539	540
541	542	543	544	545	546	547	548	549	550	551	552
553	554	555	556	557	558	559	560	561	562	563	564
565	566	567	568	569	570	571	572	573	574	575	576





# MACWORLD

## Free Product Information Service

Just return the card—  
to get more facts on the products that interest you!

PLACE  
FIRST-CLASS  
POSTAGE HERE.  
(POST OFFICE  
WILL NOT DELIVER  
WITHOUT STAMP.)

Macworld  
Product Information Service  
P.O. Box 92844  
Rochester, NY 14692



# Product Index

Reader  
Service  
Number

## ■ Software

### Business

- 274 Affinity, 149
- 306 Aldus Corporation, 71
- 227 Altsys Corp., 168
- 464 Applications International, 135
- 381 Borland International, IFC-1
- 449 Cricket Software, 42
- 159 DataPak Software, 136-137
- 446 James Associates, 158
  - Microsoft, 26-27
  - Satori Software, 7
- 247 Sof-Ware Tools, 158
- 456 Softview, 74
- 225 StatSoft, 152

### Communications

- 281 DataViz, 165
- 257 Hayes, 166
  - 97 Mesa Graphics, 140
- 387 Palantir Software, 62
- 304 Peripherals Computers & Supplies, 158
  - Software Ventures, 51

### Data Management

- 38 Blyth Software, 14-15
- 381 Borland International, IFC-1
- 159 DataPak Software, 136-137
  - Microsoft, 26-27
  - 13 Odesta, 8-9
- 420 Singular Software, 47
- 247 Sof-Ware Tools, 158
- 435 Software Discoveries, 148
- 302 StatSoft, 164

### Educational

- 198 Simon & Schuster, 6
- 225 StatSoft, 152

### Entertainment/Strategy

- 233 PBI Software, 131
- 372 SirTech Software, 12

### Financial

- 473 Great Plains Software, 139
- 231 H & E Computronics, 58
- 238 Lionheart Press, 154
- 436 Open Systems, 124-125
- 412 Softflair, 155
- 456 Softview, 74

### Graphics

- 306 Aldus Corporation, 71
  - Casady Co., 73
- 449 Cricket Software, 42
- 403 Enabling Technologies, 43
  - 2 Manhattan Graphics, 5
  - 97 Mesa Graphics, 140
  - Microsoft, 26-27
- 304 Peripherals Computers & Supplies, 158
- 198 Simon & Schuster, 6
- 247 Sof-Ware Tools, 158
- 451 T/Maker Graphics, 21

Reader  
Service  
Number

## Languages/Development Systems

- 298 CWare Corporation, 171
- 246 Krllya, 46
- 112 Manx Software, 69
- 369 Meacom, 50
- 109 Megamax, 70
  - Microsoft, 122
- 471 TML Systems, 150
- 469 True Basic, 20
- 374 Williams & Macias Microcomputer Products, 72

## Personal Business/Home

- 227 Altsys Corp., 168
- 381 Borland International, IFC-1
- 446 James Associates, 158
- 266 Silicon Beach Software, 25
- 456 Softview, 74
- 374 Williams & Macias Microcomputer Products, 72

## Word Processing/Spelling Checkers

- 437 Creighton Development, 56
- 159 DataPak Software, 136-137
  - Microsoft, 28-29

## Miscellaneous

- 306 Aldus Corporation, 71
- 175 Central Point Software, 54
- 465 Discclone, 158
- 472 Micro-W Distributing, 154
  - Satori Software, 7
- 343 SoftStyle, 141
- 374 Williams & Macias Microcomputer Products, 72

## ■ Hardware

### Digitizers

- 167 Thunderware, 38

### Hard Disks

- 143 General Computer, 17
- 171 Iomega, 10-11
- 467 MDIdeas, 133
- 261 MassTech, 170
- 352 Micah, 93
- 406 Mirror Technologies, 37
  - Paradise Systems, 30
- 223 Personal Computer Peripherals Corp., BC
- 439 Warp Nine Engineering, 68

### Printers/Printer Accessories

- 279 Computer Friends, 36
- 164 Diversions, 163
- 343 SoftStyle, 141

## Miscellaneous

- 373 Best Computer Supplies, 16
- 279 Computer Friends, 36
- 164 Diversions, 163
  - 83 Ergotron, 53
- 323 GTCO Corp., 24
  - 11 Kensington Microware, 40-41
- 468 KillyCorp., 171
- 395 Mac Doctor Electronics, 129
- 474 MacFan, 48
- 337 MacMemory, 66
- 295 MacOhm Projects, 155
- 174 Micro Conversions, 142-143
- 235 Micrographic Images, 129
- 470 Microtech Peripherals, 60
- 450 Panamax, 155
- 177 Systems Control, 70

Reader  
Service  
Number

## ■ Accessories

### Disks

- 465 Discclone, 158
- 455 Lyben Computer Systems, 72
- 267 Maxell Corp., 105
- 414 Megasoftware, 154
- 255 Sony, 64
- 134 USA-Flex, 132

### Miscellaneous

- 452 Cauzin Systems, 22-23
- 164 Diversions, 163
  - 83 Ergotron, 53
- 305 Innovative Technologies, IBC
  - 11 Kensington Microware, 40-41
- 291 MPH Electronics, 138
- 474 MacFan, 48
  - MicroRain, 126
- 85 Personics Corp., 55
- 134 USA-Flex, 132

## ■ Mail Order

- 373 Best Computer Supplies, 16
- 453 Business Computers of Peterborough, 151
  - Disk World, 134
- 272 Icon Review, 32-35
  - 4 MacConnection, 76-79
- 368 MacRentals, 171
- 16 MacStore, 164
- 215 Northeastern Software, 144-147

Reader  
Service  
Number

## 45 PC Network, 156-157

- 194 Programs Plus, 44-45
  - Saving Zone, The, 127
  - Software Library, 163
- 55 Telemart, 153
- 456 Vision Technologies, 171

## ■ Organizations

- 330 CompuServe, 18-19
  - International Apple Core, 49

## ■ Books

- 214 John Wiley & Sons, 172
  - Warner Books, 155

*The Product Index is published as a service to our advertisers and may be discontinued at the publisher's discretion. Every reasonable effort is made to categorize advertisers correctly. If a listing should be changed, please write us at Macworld, 555 De Haro Street, San Francisco, CA 94107, so that we have the opportunity to change it.*

# MacLink

... the "intelligent" link between  
your Macintosh and the IBM PC

MacLink allows you to translate spreadsheet and word-processing files between the Macintosh and the IBM PC . . . easily and quickly.

Now you can translate spreadsheets between Lotus on the PC and Multiplan on the Mac . . . including formulas, column formats, and functions.

And MacLink allows you to transfer any other type of file between the two machines as well . . . including binary, CSV, SYLK, text, WKS (Jazz/Excel), and Word files.

MacLink's integrated communications and unique translators

Unique PC ↔ Mac Translators!

And you can translate documents between Wordstar, Multimate or Displaywrite on the PC and MacWrite on the Mac . . . including margin settings, paragraphing, columns, and print styles.

work via modems or with an optional PC to Mac cable.

The cost is just \$125: This includes the MacLink manual, and a MacLink disk for both the PC and the Mac. \$155 with cable.

**DataViz, Inc. — 16 Winfield Street — Norwalk, CT 06855**  
**(203) 866-4944**

Trademarks IBM, Lotus, Macintosh, MacWrite, Multimate, Multiplan, Wordstar, Displaywrite, Excel, Jazz, Word

Circle 281 on reader service card



“Smartcom II<sup>®</sup> (communications software) for the Mac is the best terminal program for the Macintosh...”

—*Link Up*, September 1985.

What more can we say?

**Hayes<sup>®</sup>**

Say yes to the future with Hayes.



# Open Window

*Better digitized images, laser printouts for blueprinting, narrowing down MacWrite, and other Macintosh discoveries*

**Edited by Jim Heid**

*This month's column includes some advice on obtaining better results with Thunderware's ThunderScan digitizer. We uncover two undocumented features of Apple's Finder version 4.1, as well as a hidden ability of MacPaint's lasso. Also, a reader reports on an interface that lets Epson printers work with the Mac, and another reader shares a technique for creating narrow MacWrite documents. Finally, we pass along advice on using LaserWriter drawings to produce blueprints.*

## ThunderScan Enlightening

In my continuing quest for perfection from a ThunderScan digitizer, I've found some techniques for improving the quality of a digitized image, thereby reducing FatBits retouching.

First, you get better results if your original is perfectly straight when you put it in the Imagewriter. If the original contains a long, horizontal line, align it with the printer's roller shaft (the spring-loaded chrome bar that sandwiches the paper against the rubber platen).

You may want to do a test scan of the horizontal line to check its alignment. If the original isn't perfectly straight, the line will appear skewed or slightly "stair stepped" instead of straight. Roll the platen back, adjust the original slightly, and scan again.

If the image you're scanning contains many vertical lines, place it in the Imagewriter sideways—that is, with the vertical lines running horizontally. You'll get better results, since the scanner moves horizontally (see "Straight Scans"). To reorient the

image, save it as a MacPaint document, then open it with MacPaint and use the Rotate command in the Edit menu.

*Fred Hatfield  
New Orleans, Louisiana*

## Bypassing the MiniFinder

The MiniFinder available with version 4.1 of the Finder decreases the time required to move between applications. When you need the Finder to copy files or otherwise work with disks, however, the MiniFinder adds a step, since you have to click the Finder button or hit Enter to start the Finder.

I discovered that you can bypass the MiniFinder and go straight to the Finder by holding the Option key while you choose a program's Quit command. Hold the key for a few seconds, especially if you're using floppy disks, just to make sure the Macintosh notices.

*Jim Moy  
Moscow, Idaho*

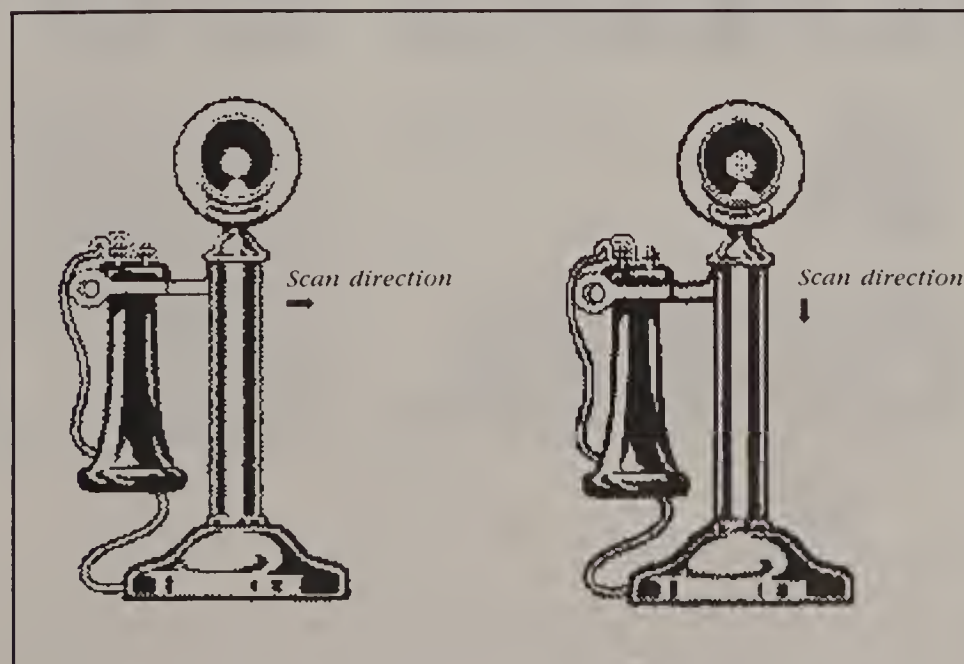
## Trashing Locked Files

Tired of seeing the message, "That item is locked or in use, and can't be removed" when you try to throw away a locked document or application? Instead of opening the item's Get Info box to unlock it, simply hold down the Option key when you select the locked item to drag it to the Trash. The Trash can will accept it willingly.

*Steve Kubby  
Truckee, California*

## Remote Control Lasso

MacPaint's lasso is a great tool for manipulating drawings, but the arrow pointer often obscures your view when you work with tiny details, making it hard to align small elements. I've discovered that after you lasso an item, you can move it by clicking a narrow area located along the drawing window's left and bottom edges as if you were clicking directly on the item (see



## Straight Scans

When you use ThunderScan to digitize an image with strong vertical lines, you get better results if you place the original in the Imagewriter sideways, with the vertical lines running horizontally. To reorient the image, save it as a MacPaint document, open it with MacPaint, and use the Rotate command on the Edit menu.



(continued from page 167)

"The Lasso Zone"). Since these invisible "lasso bars" are only a couple of pixels wide, you may have trouble locating them at first. After lassoing your selection, move the pointer slowly toward the window's left or bottom edge. When the pointer turns from the lasso tool into the arrow—before moving out of the drawing window—you've found the lasso bar.

Brad Cannon  
West Palm Beach, Florida

## Another Epson Connection

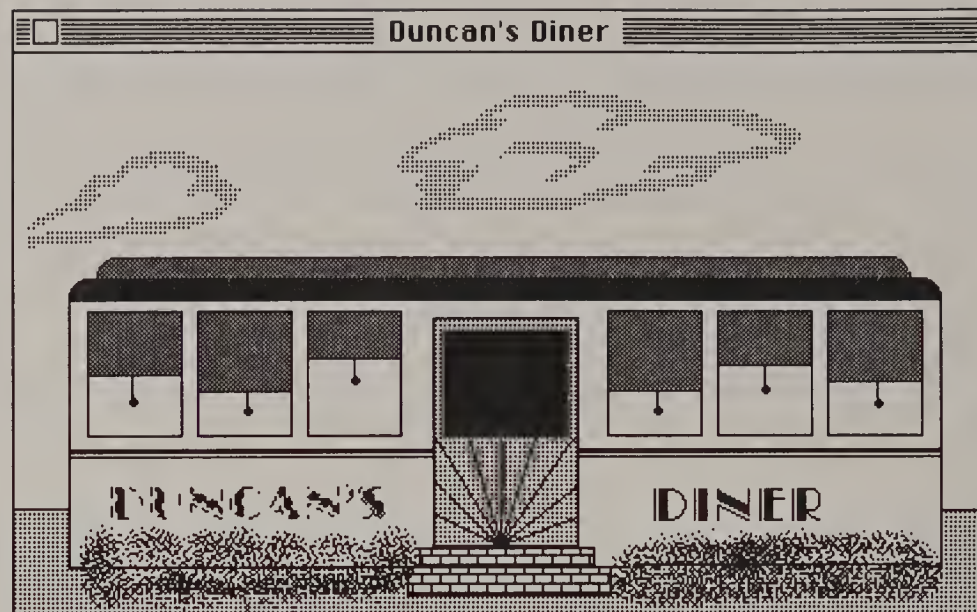
As a fellow Epson printer owner, I read with interest C. C. Lee's "The Epson Connection" in the October 1985 *Open Window*. I know of an alternative to the serial interface board Lee purchased, and it doesn't require any chip changing.

The Universal Card (Hanzon Data, 18732 142nd Ave. NE, Woodinville, WA 98072; the board's part number is 12319) costs about \$100. It plugs into the Epson printer and requires no modifications. It allows you to switch between Imagewriter

emulation and standard Epson operation. The printer's original parallel interface can still be used with other computers.

The board works with either FX or RX series printers, though the Imagewriter emulation mode doesn't work perfectly with RX printers. The RX series cannot reverse line feed, causing page length problems with programs like *MacWrite*, which "jiggles" the paper up and down at the beginning of each page.

E. M. Greenawalt  
Sunnyvale, California



## The Lasso Zone

After you lasso an item in MacPaint, you can move it by clicking on a small area located along the drawing window's left and bottom edges and then dragging. This tip is useful when you manipulate small selections that the arrow pointer might obscure if you clicked directly on the selection.

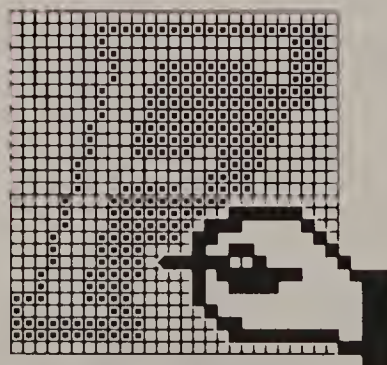
## My Little Margins

*MacWrite* limits a document's minimum line width to 2 inches. When the left margin is at its preset 1 1/8 inch, you can't drag the right margin marker to the left of the 3 1/8-inch mark.

You may not be able to drag it, but you can bend it. I've found that if you click on the left corner of the right margin marker,

(continues on page 170)

# YOUR FACE STANDS OUT IN A CROWD.



With Fontastic, your typeface will be unique. Because you can create totally different fonts easily.

Fontastic unleashes your creativity. And lets you style, edit and scale any existing fonts. As well as cut and paste characters within or between fonts. All with more convenience than you've ever known.

Fontastic. The Macintosh™ font editor that offers you versatility the easy way.

And the kind of face that gets you the attention you deserve.

## Fontastic™

Macintosh™ font editor

\$49.95 — includes shipping  
(Add \$8.00 for airmail outside U.S.) MasterCard, Visa, or personal checks accepted.

Altsys  
corp.

P.O. Box 865410  
Plano, TX 75086 • (214) 596-4970

Circle 227 on reader service card



# WANTED: OLD THINKER TOYS.

CW Communications, ComputerLand and The Computer Museum invite you to send in your early personal computers, software, and memorabilia — you could win a free trip to The Computer Museum in Boston

Your old, dusty "thinker toy" may now be ready to become a treasured museum piece. The Computer Museum in downtown Boston — an international museum dedicated entirely to computing — is searching for the very best and most unique relics of the personal computer revolution.

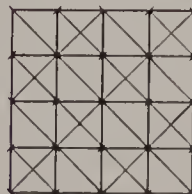


ComputerLand, CW Communications, and The Computer Museum are working together to bring these early relics out of your attic and into the collection of

The Computer Museum. The museum is especially looking for kit machines, prototypes, programs, output, newsletters and memorabilia of early computing from around the world. A selection of the finest items will be used to create an exhibit on the

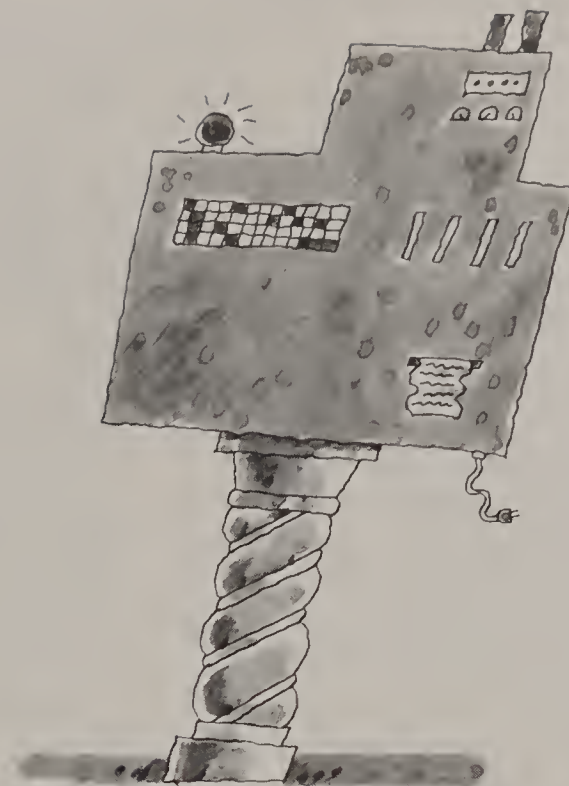
**ComputerLand®**

**The  
Computer  
Museum**

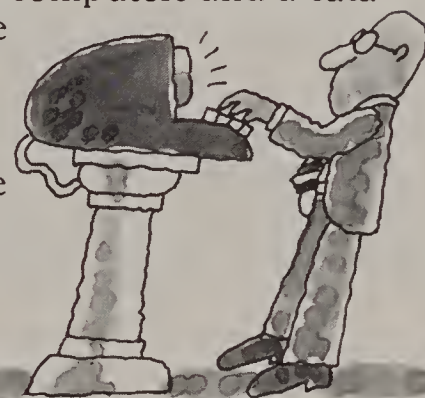


**CW COMMUNICATIONS/INC.**

Entries will be judged on significance, rarity, date, completeness and condition. Items particularly sought include pre-1980 machines, early serial numbers (get those number 1's out), machines made for purchase outside of North America (even modern machines are sought in this category); first releases of software such as first releases of operating systems, languages and mass-marketed and original applications; and pre-1980 photographs, newsletters, manuals and other records. The Computer Museum is a private non-profit educational institution. All donations are tax-deductible according to the provisions of the Internal Revenue Service. Thinker Toys is a registered trademark of George Murrow & Murrow Designs, Inc.



evolution of personal computers and a catalog highlighting the Museum's collections. If your submission is accepted for addition to the Museum collection, you will be invited to the grand opening of the exhibit and will receive a bound edition of the catalog. If your item is selected as one of the five best "finds", you will also receive an all-expense-paid trip to Boston for the grand opening party.



So, get up to the attic, down to the cellar and into your closets, and tell us what you find! Call or write the Museum for an official entry form, or send a photo and description of your items by March 1, 1986

to: The Computer Museum, Personal Computer Competition, 300 Congress St., Museum Wharf, Boston, Massachusetts USA 02110, (617) 426-2800, Telex: 62792318.



(continued from page 168)

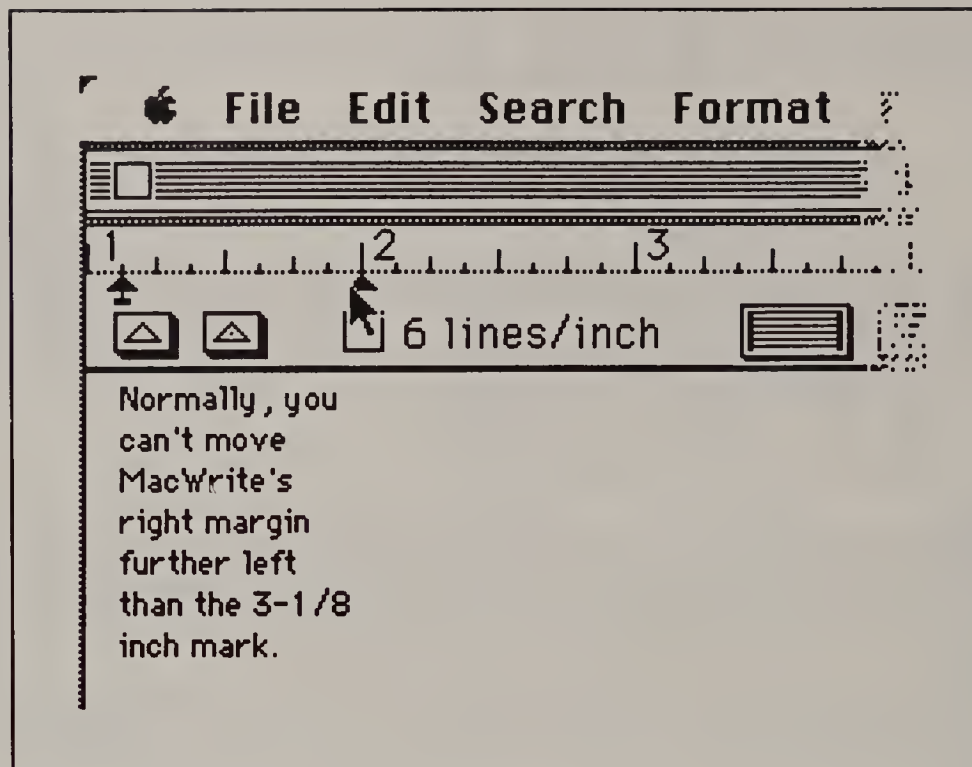
it jumps  $\frac{1}{16}$  inch to the left (see "Narrow Text"). This technique lets you create wider margins by repeatedly clicking until the marker is where you want it.

My discovery has some catches, however. If you don't position the pointer accurately when clicking the margin marker, or if you move the mouse while clicking, the marker jumps back to its  $3\frac{1}{8}$ -inch position, forcing you to start over. Second, *MacWrite* does not save the wide margins. If you try to open an extra-narrow document, you get an error message saying, "An I/O error occurred, caused by disk full or bad media. Some data may be lost." In my experience, no data is lost, but because the margins aren't saved, you have to reset them.

Robert Loos

Medford, New Jersey

*Don't try to copy a wide-margined ruler, either; or you'll get the same error message. Interestingly, some prerelease versions of the disk-based MacWrite save and load narrow documents. I conducted some tests with version 3.17, dated Sep-*



*tember 25, 1984 (according to the About MacWrite box), and had no problems.*

*If you have a prerelease version of the disk-based MacWrite, start it and decrease the right margin using Mr. Loos's technique. Try saving the document, then closing it and opening it again. If you receive an error message or cause a system error, you have to locate a different version or reset your margins.*

## Narrow Text

*If you click on the left corner of MacWrite's right margin marker, it jumps  $\frac{1}{16}$  inch to the left. You can use this technique to create narrow documents by repeatedly clicking until the marker is where you want it.*

*If the narrow document does open properly, however, you're in luck. Select the wide-margined ruler and copy it, then open the Scrapbook and paste. Now copy that Scrapbook file to the disk containing version 4.5 of MacWrite, making*

(continues on page 172)

# COMING SOON! AN INTERNAL 20M HARD DISK WITH MEMORY EXPANSION AT A LOW PRICE

Have you wondered why an internal hard disk for the Macintosh should cost so much? Well we have too.

That's why we decided it was time for a company to offer one at a low price.

Our fast 20 Megabyte hard disk will eliminate the time and

frustration of searching for your programs and data through stacks of diskettes.

For the fastest FASTMAC™ ever, combine our new internal hard disk with one of our FastMac memory and CPU performance upgrades.

Circle 261 on reader service card

**Mass  
Tech**

The Quality Computer  
Products Company

773 Boston Road, Groton, MA 01450  
617-448-3450/800-447-1215

FastMac is a trademark of MassTech Dev. Labs, Inc. Macintosh is a trademark of Apple Computer Inc.



# TRY BEFORE YOU BUY

14 Day RENTAL

Pagemaker	\$116.25
Helix	58.25
Thunder Scan	47.75
Factfinder	23.65
Macdraft	40.25
Deluxe Music Const	10.50
OverVUE 2.0	43.75
Dollars & Sense	21.75
Jazz	92.50
Excel	58.25
Omnis 3	71.75
Mac 3D	32.25
Easy 3D	19.85
Front Desk	23.15
Video Works	16.35
MS Basic	23.25
MS Fortran	47.25
TML Pascal	20.50
Readysetgo	19.85
BatteryPak	9.95
Mac-In-Tax	22.50
Microphone	23.00
Smartcom	24.65
Sidekick	16.85
Rags To Riches	26.25
Tempo	17.85
Games, Fonts,	CALL
Clip-Art and Utilities	

Over 240 Titles



In Texas &  
Information

(713) 360-4649



MacRENTALS™  
P.O. Box 6093 • Kingwood,  
Tx. 77325

FOR  
RENT

FREE \$20 MEMBERSHIP

Sony	\$19.79
	Box (10)
Disks	\$1.75
	Each in Bulk
Ribbons	\$3.95
	Black
	6-Pak \$24.00
	Color

Order Hotline:

1-800-972-3018

MAC de la

# CRUNCH

68881 Math  
co-processor

**\$849.00**

50x faster than  
the avg. Mac I

BY MICROGRAPHIC IMAGES corp.

# ONE MEG 399.00

# 22 megs INSIDE!

WITHOUT A LOT OF HYPE

1 MEG RAM & 21 MEG INTERNAL DRIVE  
With Hierarchical filing!

**\$2095**

by MICROGRAPHIC IMAGES corp.

- 1) 1 MEG ,SCSI PORT, \$549
- 2) 1 MEG, SCSI,68881 COPROC. \$1499
- 3) EXTERNAL VIDEO PORT \$149
- 4) FANNYMAC fan/surge protector \$89
- 5) Mac Schematics Poster Set \$19
- 6) The BIG MAC (2.5 MEG.) CALL

**KILLYCORP** 1-800-334-0854 ext.530

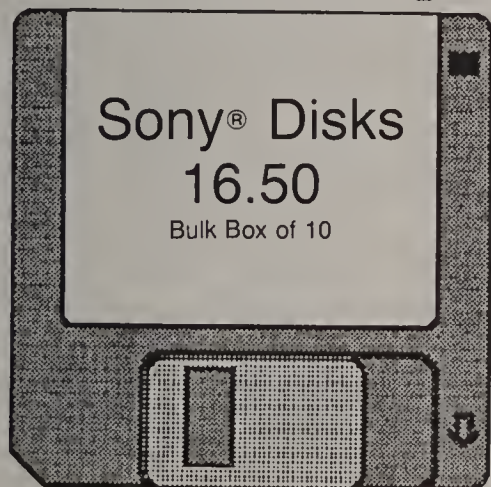
Mac is a trademark licensed to Apple Computer

Big Mac,Fannymac,and Macschematics are trademarks of Beck-Tech

Circle 368 on reader service card

Circle 468 on reader service card

# Disks



Sony® Disks  
16.50  
Bulk Box of 10

Upgrades:

128-512k \$149

512-1024 \$359

128-1024  
\$399

Double Sided  
Disk Drives  
289

Mouspad by Moustrak 7.95

The Pocket Pak 7.95

The Easel 13.95

1200 Baud Modem 199

Clean Image

Ribbon Kit 16.95

Black Ribbons 3.95

Color Ribbons 4.95

Red, Blue,Green, Yellow

Visa, Mastercard,C.O.D. ,corp and Govt. P.O.s accepted  
Texas Residents add sales tax

# 1(800) MAC-DISK

In Texas (512) 473-2604

Vision Technologies Inc.

2200 Guadalupe St. Ste 216 Austin Tx 78705

Circle 456 on reader service card

# DESMET C \$150\*

Macintosh™ Development Package

Runs on both 128K and 512K Macintosh  
Full K&R Compiler — IEEE Floating Point  
>450 Function Macintosh ROM Library  
Assembler, Linker & Librarian  
>120 Function STDIO Library  
Machine Code Debugger  
Source Code Editor  
"Shell" interface  
300 Page manual  
RAM Disk

Published and sold direct to the end-user by:

**C Ware Corporation**

P.O. Box C, Sunnyvale, CA 94087  
(408) 720-9696

\*Price includes domestic shipping. Canada \$5. Europe/Asia  
add \$20. Call to charge by VISA, MC or AMEX. Street  
address: 505 W. Olive, #767, Sunnyvale, CA 94086.

Macintosh is a trademark licensed to Apple Computer, Inc.

Circle 298 on reader service card



(continued from page 170)

sure the Scrapbook file you're replacing doesn't contain something you want to save. Now you can use the release version and retrieve and paste rulers for narrow documents as needed.—Ed.

## Laser Blueprints

Now that professional drafting programs are available for the Macintosh, many architects and draftspeople need to attach LaserWriter-printed artwork to existing drawings.

Because regular paper isn't translucent, laser printouts on it don't work in the diazo process used for producing blueprints. One way to overcome this problem is to print on the clear Mylar used for overhead transparencies, but it's a problem attaching the Mylar neatly to the original drawing.

Ideally, you could print the artwork on what draftspeople call "sticky back"—peel-back, self-adhesive paper. Most such material comes in irregular sizes, however, and isn't heat resistant—a vital feature if it's to be run through the LaserWriter. After some research, I located a product that meets both the size and heat requirements. It's called Drafting Appliqué Film (DAF) and is made by Chartpak (1 River Rd., Leeds, MA 01053).

DAF is an adhesive-coated, 1.5-mil thick, matte-finish Mylar polyester. The matte finish accepts sharp, dense images well and can be fed into the LaserWriter manually or through the cassette tray. A second product, DAFR, is similar to DAF but has a repositionable adhesive. It's strong enough to withstand repeated passes through diazo equipment, yet the drawing fragments can be removed and repositioned without damaging the adhesive.

Steve Griffis  
Berkeley, California

Submitted by readers, industry experts, and the Macworld staff, items in Open Window address all facets of Mac work, from applications to programming routines to capabilities of the Mac and software that are not covered in the documentation.

Perhaps you have come up with a nifty routine, gained some insight into how the Mac or a program works, or even written a short program that performs a useful function or creates an interesting diversion. Tell us about it, and we'll pass your discovery along. We'll also pay \$25 to \$100 for each Open Window item published. Please send your Macintosh discoveries on disk (which we will return) along with a brief hard copy description to Open Window, Macworld, 555 De Haro St., San Francisco, CA 94107, or electronically to CompuServe 70370,702 or The Source BCW440. Submissions may be edited for length, clarity, or content. All published submissions become the property of Macworld magazine. □

# The genius in your Macintosh depends on you...

Let it out with Wiley Computer Books.

## EXCEL

### A Power User's Guide

J. Sanborn Hodgkins

Helps you reach the full potential of Microsoft's integrated business software, including advanced functions not fully covered in Excel's documentation. Shows how to customize the program for specific applications, how to manipulate arrays and functions, work with multiple screen windows, and much more. Includes ready-to-use sample financial worksheets and programs.

\$19.95

## MAC AT WORK

### Macintosh™ Windows on Business

S. Venit and Diane Burns

Shows how to use windows to combine text, spreadsheets, and graphics into a single document tailored to such fields as management, finance, insurance, real estate, law, and medicine.

\$17.95

## JAZZ® AT WORK

Diane Burns and S. Venit

Explains word processing, spreadsheet, graphics, database, and telecommunications functions and commands so clearly you can read and point a mouse at the same time. It also shows you how to create more sophisticated applications, such as full text-and-graphic presentations, and annual reports and proposals—all using Jazz's innovative Hotview feature to merge and link different files.

\$19.95

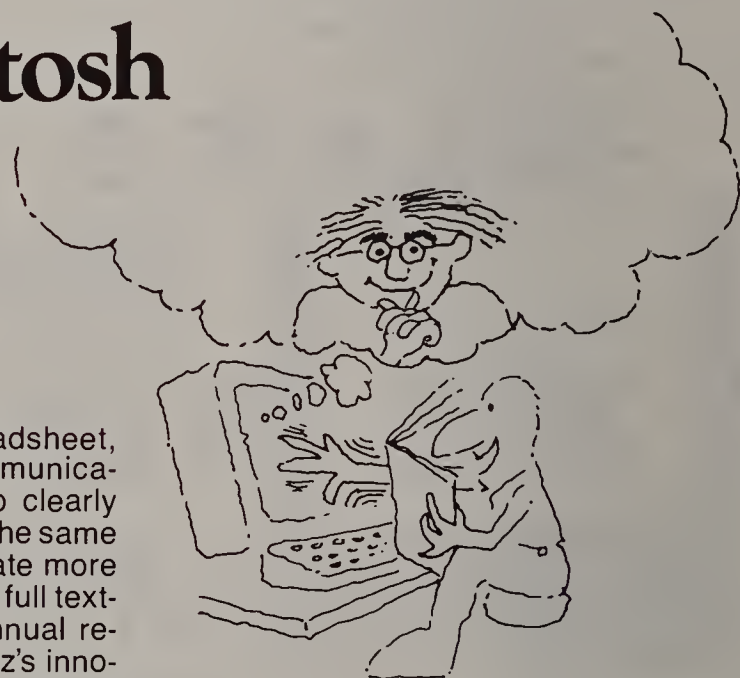
## MACINTOSH™

### A Concise Guide to Applications Software

Dirk van Nouhuys

Step-by-step explanations and real screen illustrations show you how to run every type of major applications program, from MacWrite® and MacDraw® to Multiplan®, ThinkTank®, and FileVision®. Includes commentary on the strengths and weaknesses of each program.

\$16.95



Wiley Press guides have taught more than three million people to program, use, and enjoy microcomputers. Look for them at your favorite bookshop or computer store! For a complete list of Wiley's computer titles, write to Gwenyth Jones, Dept. 6-0915.

## JOHN WILEY & SONS, INC.

Business/Law/General Books Division  
605 Third Avenue, New York, N.Y. 10158.

Prices subject to change and higher in Canada.

**WILEY PRESS**  
**COMPUTER BOOKS**

Circle 214 on reader service card



# THE DISC MANAGEMENT SYSTEMS

## THE PYRAMID™



The Pyramid holds up to 24 5¼" floppy disks with a storage design that allows the user to quickly read each disk label at a glance. Designed for the executive, professional or student who is on the move. Available in cordura with a beautiful variety of colors. \$21.95. DS 3

## THE POCKET PAK™



This useful product will hold up to 10 3.5" Microdisks and is small enough to fit inside a coat, jacket or purse. Ideal for students, professors or executives on the move. Available in nylon with a beautiful variety of colors. \$13.95. DS 2

BY  
INNOVATIVE  
TECHNOLOGIES

## THE DISC DIRECTORY™



Designed for professionals who have a need to transport and display more than 30 3.5" Microdisks. Easily fits in a briefcase. Reinforced with Mylar plastic. Velcro closure keeps diskettes safely in their pockets. Available in nylon with a beautiful variety of colors. \$29.95. DS 5

All products are made of the  
highest quality antistatic materials.

Call toll free for information.  
Dealer inquiries welcome.

## THE LIBRARY™



Geometrically designed to categorize, index and store 80 3.5" Microdisks. The Library rotates 360° and has the capability of holding two more modules on top with final storage capacity of 240 disks. Designed for the corporate office. \$49.95. DS 4

## THE EASEL™



The world's most popular portable disk handler. Holds 20 3.5" Microdisks. Folds to a thickness of 1 in. Now shipping our new improved model. Available in nylon with a beautiful variety of colors. \$19.95. DS 1



HOME OFFICE - USA - P.O. Box 3092,  
La Jolla, CA 92038  
CANADA - 23 Alderbrook Dr., Don Mills,  
Ont. Canada M3B 1E3

USA 800-525-2226  
CALIFORNIA 800-824-6097  
SAN DIEGO 619-456-0722  
CANADA 416-485-6352

Our appreciation to all software publishers and disk manufacturers who supplied products in this ad.

Circle 305 on reader service card



# MacBottom 20 Hard Disk Drive.

## The compact that takes you and your Macintosh for a ride in the fast lane.

Don't let the size of the MacBottom™ hard disk drive fool you. It's the fastest external disk drive you can attach to your Macintosh.

This high

The MacBottom includes variable size volume allocation FROM THE DESKTOP that utilizes all available space efficiently.

The MacBottom also provides



capacity, 21 megabyte disk drive weighs just five pounds and fits perfectly under your Macintosh. And because the MacBottom is a mere two inches high, it's a convenient traveling companion—just place it in your carrying case:

Despite its compact size, the MacBottom offers a long list of helpful features. To protect valuable disk data, it has built-in power fail detection. Automatic turn-on needs no extra switches. And automatic head park needs no extra shutdown, even before travel. It can be connected to either the modem or printer port—it knows which, automatically! Or connect a MacBottom to each port!

you with fast and foolproof backup. And to free your Macintosh for more work, the MacBottom offers a huge printer buffer-up to 4 megabytes!

The compact MacBottom hard disk drive. Its unique combination of features produce the most efficient Macintosh ever! It comes with a full six month warranty, including parts and labor. Let one take you and your Macintosh for a ride in the fast lane, soon.



PROUDLY MADE IN THE U.S.A.

™ Macintosh is a trademark licensed to Apple Computer, Inc.



Personal Computer Peripherals Corporation  
6204 Benjamin Road, Tampa, Florida 33614  
(813) 884-3092 (800) MACBUTT

Circle 223 on reader service card